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THE SOUTHERN MEDICAL JOURNAL

JOURNAL OF THE SOUTHERN MEDICAL ASSOCIATION

INCORPORATING THE GULF STATES JOURNAL OF MEDICINE AND SURGERY AND MOBILE MEDICAL AND SURGICAL JOURNAL

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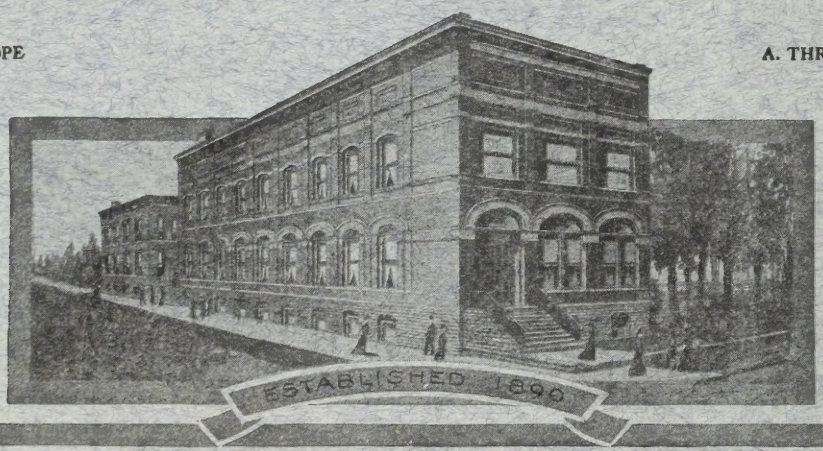

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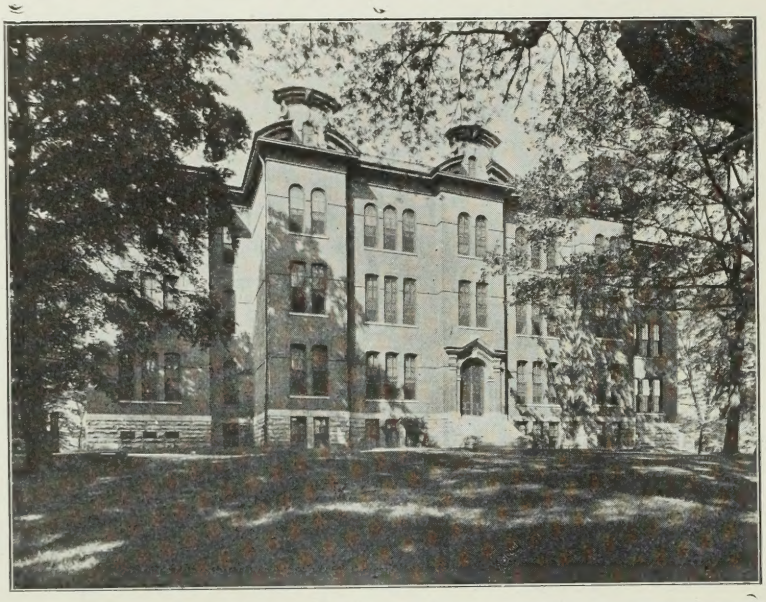

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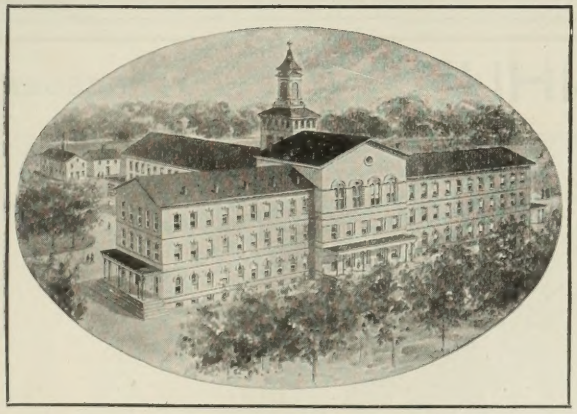

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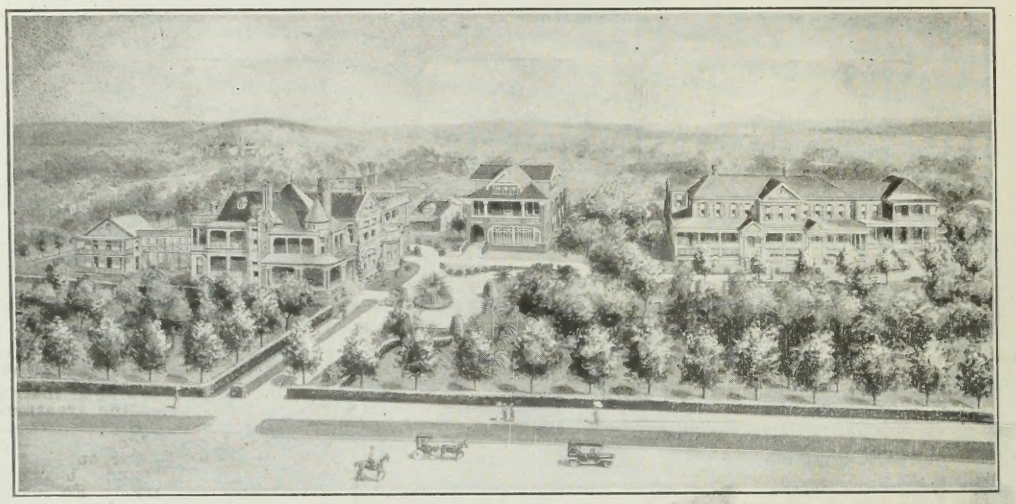

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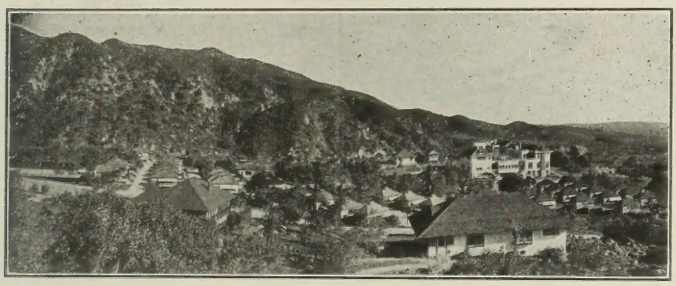

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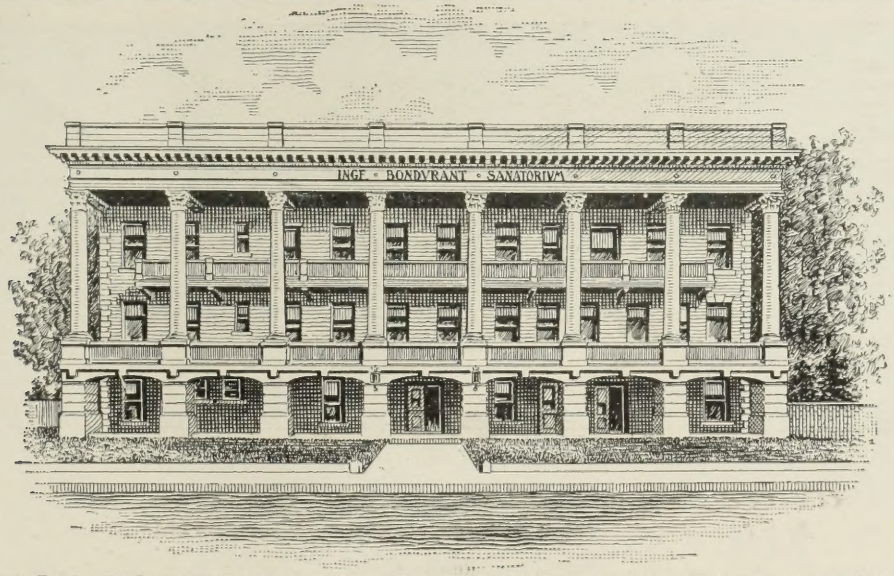

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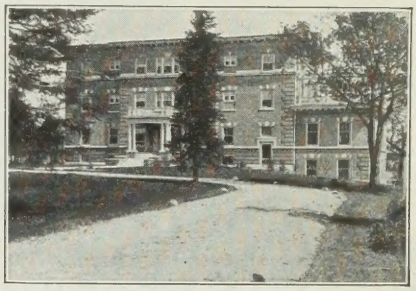

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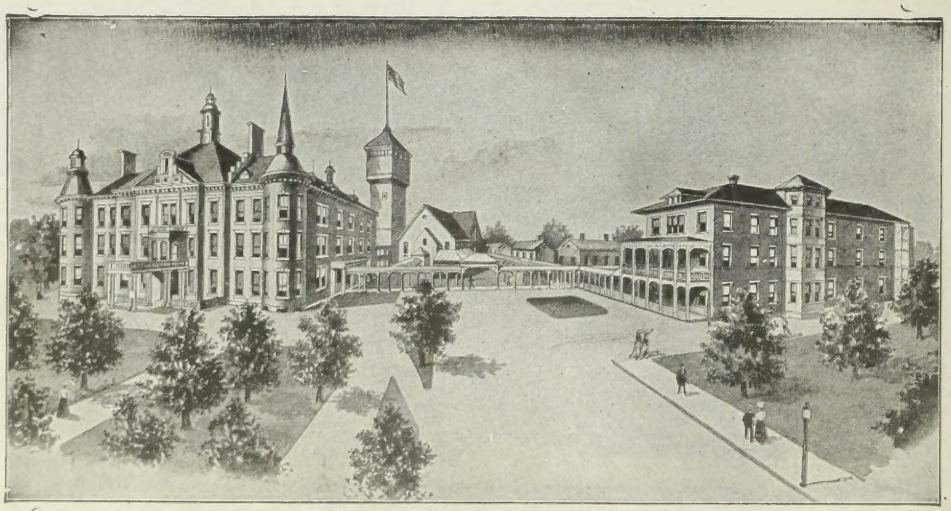

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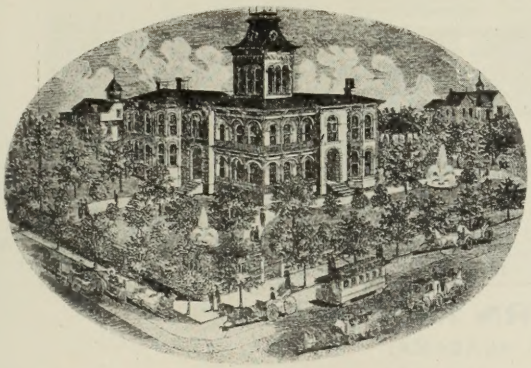

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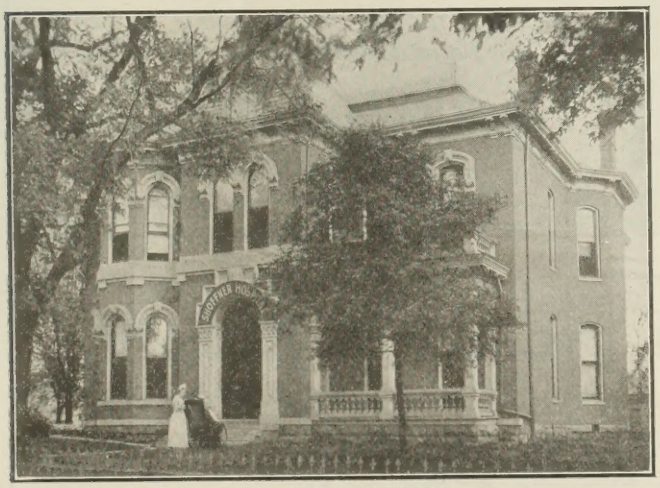

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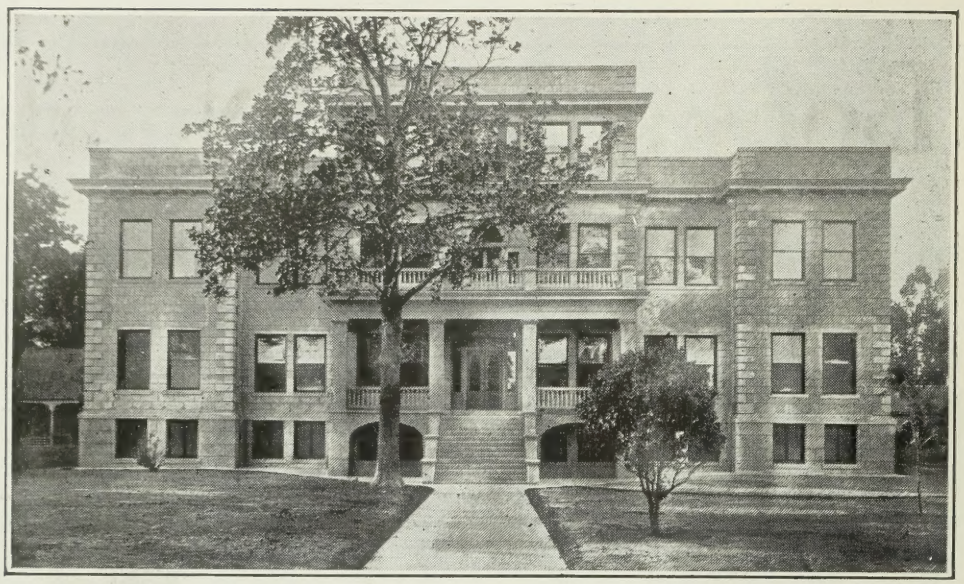

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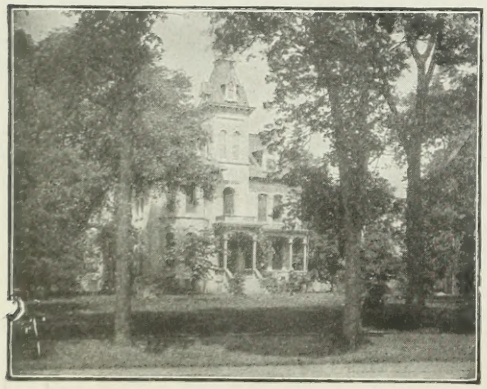

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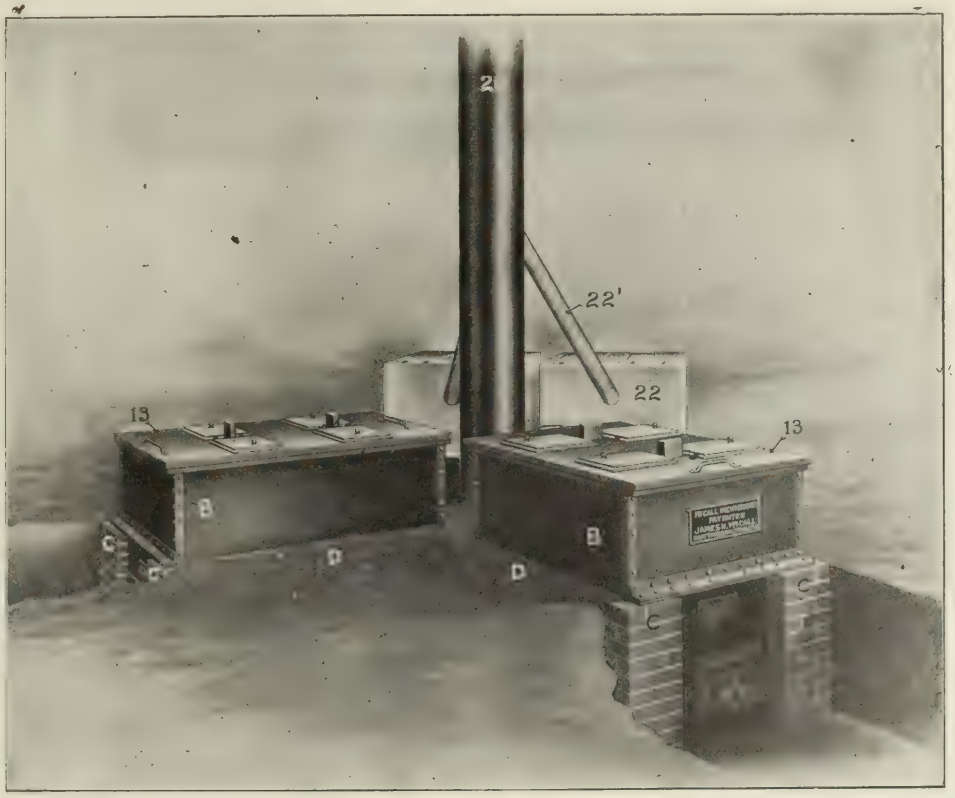

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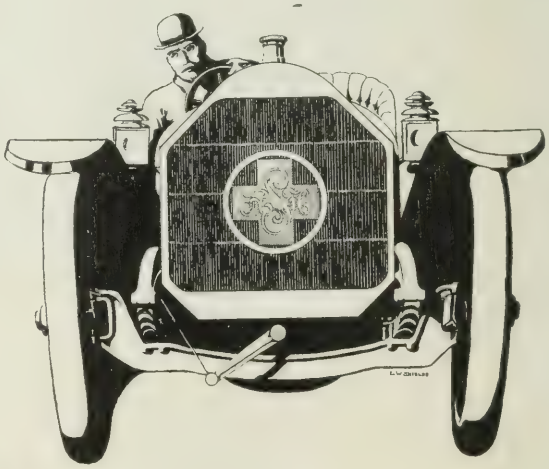

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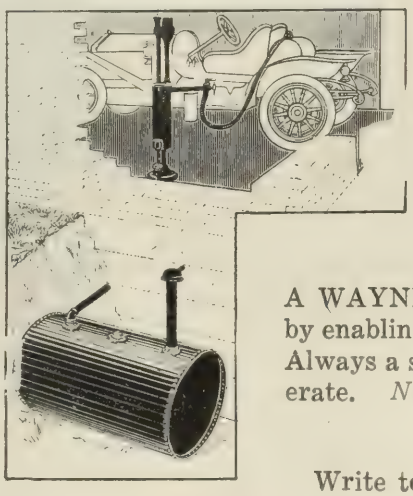

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ORIGINAL ARTICLES

PRESIDENTIAL ADDRESS, MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, MONTGOMERY, TUESDAY, APRIL 18, 1911

By WYATT HEFFLIN BLAKE, M.D.
President.

Members of the Alabama State Medical Association:

LADIES AND GENTLEMEN—We are fortunate in having Montgomery as the place for this annual meeting. A peculiar interest is felt by us all for this, the capital city of our beloved state. In addition to this, the generous reception tendered us by the physicians of Montgomery at many former meetings is well-remembered and arouses within us pleasant anticipations for the present occasion.

Since our meeting in Mobile a year ago, the condition of this association has, as a whole, been satisfactory. As a guardian of the public health its efficiency continues to increase. The departments immediately under the state health officer are being more thoroughly organized. The bacteriological laboratory is in charge of men well prepared for their special duties, and the work of this department is of inestimable value to the state.

It has been my sad experience to see my own patients die of hydrophobia. No death is perhaps more horrible, and in no disease is a physician more helpless, but blessed be the memory of Pasteur, the old time dread of hydrophobia no longer haunts us, and this blessing is tendered to any citizen of Alabama, be he ever so poor, and that, too, without money and without price. The aid this department is giving our physicians in other ways is invaluable.

Through the munificence of Mr. Rockefeller, the work already begun by our state health officer and his co-workers against hookworm disease has been rendered much more effective. During the past year the commission for the eradication of hookworm disease was organized as a separate department of our public health system, and is now accomplishing great good. Think of the poor, helpless child, in poverty and want, whose pale cheeks are made to glow with warm, rich, red blood of health—such is the good being done by this department.

The work of collecting vital and mortuary statistics is improving, though no important part of our duty to the state is so poorly met. The value of this department goes without question, and it is to be hoped that county health officers, since their compensation is reasonably adequate and is fixed by law, will be more zealous in their efforts to collect the birth and death reports in their respective counties.

There are other things yet to be accomplished before our department of public health is developed to its greatest efficiency. The medical supervision of convicts should be changed in its relation to this department. My experience enables me to speak with confidence on this subject, and it is a fact that the health of the convicts of Alabama could be better guarded if the medical department of the convict system were correlated with the State Board of Health. The physician inspector of convicts is appointed by the Governor and is liable to change with each

administration. He is not always chosen by reason of his skill in medicine nor on account of his accurate acquaintance with the laws of hygiene, but, admitting that this appointment is made from among our best physicians, there are necessarily new problems confronting each officer when he takes charge of the work. At this time he would be greatly aided and the state would receive better service if the medical inspector had the advice of the state health department to guide him. On the other hand, should a medical inspector be lacking in ability, the help he would constantly get through the State Board of Health would be a financial gain to the state and a blessing to the prisoners. The inspector of cotton mills and his assistants should perform their duties under the supervision of the State Board of Health in the same manner that I have suggested for the inspection of convicts.

These and all other duties pertaining to the public health of Alabama can be best administered through the State Board of Health, and we should not cease our efforts until that end is attained.

Of the diseases affecting our people, tuberculosis easily occupies the first rank. In my opinion, much good has been accomplished by the campaign against this disease during the past few years. It is chiefly by teaching the people prophylactic methods that this good has been brought about, and it is by prophylaxis that we may hope to accomplish far more. Much discouragement will confront us in our warfare against consumption, but we must continue the crusade. Many of you will remember the zeal with which your humble speaker endeavored to arouse interest in this subject more than a dozen years ago. Different volumes of our transactions for those years contain papers I wrote on this subject, but with a few exceptions my efforts seemed to possess no great amount of interest, even among physicians. However, a few years later a general interest was aroused among the people on this subject of tuberculosis, and we expect much real good as the result. A state sanatorium for tuberculosis will eventually be established, and it will be an object lesson in teaching our people how to manage this disease. The man who returns from this institution restored to health will make a profound impression on all who know him. His story of the methods which cured him will be accepted with far more confidence than if told by any physician. He will become a disciple of fresh air and his message will not fall on dull ears. The greatest good of a tuberculosis sanatorium will come in this way.

We have another lot of people returning to their homes in Alabama with a different story and a far different result. For many years past it has been almost an established rule for the Governors of our state to pardon those convicts who were incurably ill with consumption. This number is not measured by hundreds, but by thousands. We all commend the humane motive that has prompted our Governors to pardon those consumptives. No one could be indifferent to the pathetic appeal of these unfortunates, who beg permission to go home and die among their relatives and friends, but think of the result. Most of them are negroes, ignorant of every sanitary law. They return to families ignorant themselves of every hygienic precaution, so each consumptive returns home to spend the rest of his miserable existence sowing the seed of death among his own family and friends. For more than half a century the penitentiary of Alabama has been the greatest single focus for spreading consumption throughout our state. This should not be. I beg to quote the following from an address I made before this association thirteen years ago on "The Need of a Separate Prison for Consumptive Convicts": "The management of prisons in Alabama furnishes conditions specially favorable for the propagation of consumption. The convicts are not confined in separate cells, but from 50 to 100 are kept together in single, large cells. The consumptive convicts unless actually ill are confined

with the well ones. During winter these cells are made close for warmth. The results are as might be expected, an atmosphere full of the germs of consumption and an alarming death rate from this disease. There is only one remedy for this condition, and that is to separate the consumptive from the non-consumptive. We need a separate camp for consumptives, the farther from the other prisoners the better. This gives the consumptive a chance to recover and the well man a chance to remain well." At the next meeting of the Legislature a bill embodying these recommendations was introduced at my request by the lamented Richard H. Clarke, and became a law without opposition. This law has been on our statute books for eleven years, but has been disregarded by all subsequent prison management. Consumptive convicts are today confined not only at the same prison with those not infected with the disease, but right in the same stockade with those sick of other ailments. Could you think of a more favorable condition for the spread of this disease. I recommend that this association pass a resolution urging the Governor of our state to execute the law requiring that consumptive convicts be confined at a separate prison from the non-consumptive convicts. My conviction is that being a consumptive should be a barrier instead of a cause for pardon, unless the Governor has assurance that such consumptive will observe those known precautions which will prevent his spreading the disease. Popular sentiment will doubtless not approve what I have said, but the public health of our state demands it. We should remember that a state hospital for consumptives could supply every physical want of these unfortunates far better than they could get at their homes. The dictates of sentiment are more than met by avoiding a great menace to the public health.

Conditions exist in some of our state schools which endanger the health of the children from tuberculosis. In my own town a teacher was employed in our city school until so far advanced with pulmonary phthisis that she gave up her work from sheer weakness and exhaustion. Think of the menace to which the children of her room were subjected. The building is heated by conveying hot air into the rooms. Windows and doors are closed. The hot air rapidly desiccates sputum. These conditions certainly are favorable to infection from tuberculosis. No teacher with tuberculosis should be employed in our public schools, nor should any child with tuberculosis be allowed to attend. I recommend that this association pass a resolution urging that the laws of Alabama shall be so changed that every teacher and every pupil before entering a public school or any state institution of learning shall furnish a certificate signed by a competent physician, stating that the bearer is free from tuberculosis. A certificate of successful vaccination is required for entrance to our city schools. This is a wise and just precaution, but why should our children not have similar protection against tuberculosis, a thousand fold more dangerous than smallpox?

Four years ago Senator Dr. Geo. T. McWhorter brought to the attention of our Legislature the great need of an epileptic hospital in Alabama. He introduced a bill which became a law to establish this hospital. For lack of funds our hospital exists so far only on the statute books, but it will ultimately be built, and future ages will behold it a monument to Dr. George T. McWhorter. He is with us and will read a paper relating to this subject.

The low-lying country bordering every stream of any size, and every valley of any importance in our state, is infected with malaria. Its ravages are greatest among farm laborers and it is most prevalent just at the time the cotton crop is being gathered. It causes more loss of time among our otherwise vigorous population than any other disease. Realizing the importance of this subject, I have endeavored to make it a special feature of this meeting. Dr. Chas. F. Craig,

of the U. S. Army Medical Corps, an original investigator and a co-worker of the immortal Reed, will read a paper on malaria at this meeting.

The role of the house fly in spreading disease is common knowledge. The careless way in which food products are exposed to these insects is a matter of daily observation. Butter, cheese, sugar, raisins, dates and fresh meat and fish can be seen in all our markets literally covered with flies. We know the result. I recommend that this association pass a resolution urging our next Legislature to enact a law requiring that all food for human consumption except that kept in sealed packages be kept behind flyproof screens.

For several years past my associate and I have been testing the hearing, vision and color perception of railroad employes. Not until I became familiar with this work did I realize its importance. Every one knows that color signals are employed in operating railway trains. The color of the board or flag by day or of the lantern at night must be recognized with certainty to avoid accidents. The failure of an engineer or switchman to tell the difference between colors may mean disaster to the train with its freight of human life. And yet we have men applying for employment in just these capacities who cannot tell the difference between a green lantern and a red one. If their own souls depended, they could not tell the difference between a piece of red flannel and a piece of green biaze. They are color blind. About two per cent of those who apply to us for examination have this defect of vision. There are other defects of vision of vital importance in railway service. The sense of hearing is also important. Most railroads have some kind of tests for hearing and vision, some ideal, others imperfect, but these tests are not uniform. For the safety of the travelling public these tests should be uniform throughout the United States. Every steamboat captain and every pilot must stand an examination and receive a federal license before he can run a steamboat in the United States. There should in like manner be uniform tests for hearing and vision for every railroad employe in the United States. This matter has not been without consideration in the past, but no definite results were attained. I recommend that the delegates from this association to the next meeting of the American Medical Association be instructed to bring the matter up and to urge that body to take such steps as are necessary to procure a federal law requiring a uniform examination for sight and hearing and a federal license issued to every employe in the operating department of all interstate railroads. The states in turn should demand similar tests for employes in interstate railroad service.

I now beg to call your attention briefly to the object of this association and its functions as a part of our state government. There is no other such organization in existence as the Alabama State Medical Association. In addition to the scientific and fraternal features of other medical societies, it is a part of the machinery of state. Every other state in the Union has its medical association. Each state also has its department of public health, but in every other state except Alabama the department of public health has no organic connection with any medical society. This association is as distinctly a part of our state government as is the Department of Agriculture or the Department of Public Education. It is to the public health of our state what all its literary colleges and the public school system together are to its educational interests. Indeed, its closest analogy is the public school system. The Department of Public Health has its state health officer, the public school system has its state superintendent of education. Each county has its health officer; it likewise has its county superintendent of education. The law has constituted central examining boards for all applicants desiring to teach or to enter the practice of medicine with the wise object in view of protecting the public against such doctors

and such teachers as are unfit for the responsible duties they must meet. A knowledge of their respective text books and good moral character and the qualifications each must possess to procure a license. We all realize the difficulty any examining board may have in passing on an applicant's moral character, be he doctor or teacher. Strangers directly from other states apply to those boards for examination. Mistakes are sometimes made. If it be a teacher who is proven to be unfit or morally corrupt, the law has wisely empowered the board which granted him his license to revoke it. But here our analogy must cease. If a licensed physician be guilty of deception and moral perversion, the board which granted him his license is powerless to act directly and revoke it. Why this difference? The teacher lives by his profession just as does the doctor. This brings us to some recent history. During the meeting of the last Legislature a law was sought which would enable our medical examining board to revoke the license which they had formerly granted to a physician in case he were proven guilty of practicing criminal abortion or was addicted to the drug or whisky habit to the extent of being unsafe, or of advertising with intent to defraud. The strongest opposition to this bill came from the newspapers. Why did they not formerly espouse with equal zeal the cause of the unfit or immoral teacher? Why this partiality? Can we escape the suspicion that these teachers would also have had the newspapers as their champion had they paid as liberally for advertising as does the doctor who uses the newspapers as a means to defraud. A newspaper will assume responsibility for its editorial page and would not think of publishing a news item which it knew to be false, and yet it will sell advertising space which it knows is intended to deceive and defraud the poor, the sick and the ignorant. Newspaper men are among our most intelligent people. They know, and we all know, that these papers are read by thousands of people who could not tell the difference between an editorial, a news item and some of the cleverly written medicine advertisements if their very lives were at stake. While the newspapers are championing the constitutional rights of the doctor who advertises to defraud, they should not forget that the poor, the ignorant and the afflicted have natural rights which it is the duty of all to defend. In making this complaint, I do not forget the valuable service the newspapers are rendering our profession and the state at large in taking up the fight for sanitation and public health.

In conclusion, I wish to make an appeal to the people of Alabama for the continued support and confidence they have given this association. Its chief object is to better prepare us to serve our people individually and through the strength of organization to better enable us to protect the public health of our state. It has wrought a regeneration of the medical profession in Alabama, changing it from a lot of independent practitioners to a band of organized, zealous workers. It has been the greatest single factor in elevating the standard of medical knowledge and efficiency. It has discouraged commercialism and selfishness among our profession and at the same time cultivated a spirit of mutual help and zeal for public service. It has stimulated professional pride, a thing so essential to a high order of professional conduct. With wise and patriotic counsellors to guide its destiny, this association has at all times done whatever it could do to improve the usefulness of our profession and to serve the best interests of our beloved state.

MONITOR'S ADDRESS BEFORE THE MEDICAL ASSOCIATION OF ALABAMA, MONTGOMERY, 1911

By H. A. MOODY, M.D.,
Mobile.

It is no light matter for a man to undertake such a task as lies before me tonight. The difficulty consists in the dual character of the audience, composed as it is partly of physicians, partly of unprofessional people. Though there are plenty of subjects in which both would be interested, the nature of the occasion is such as to render it necessary that a part of what is said shall be more applicable to doctors than to any one else. The only way I can see out of the difficulty is, instead of talking to the doctors, to talk about them. People will generally listen to what is said of other people. Fortunately the mind of the doctor when he is away from home is not necessarily absorbed in the same topics that occupy his thoughts when he is at the place where his daily toil makes the wheels go round that grind the daily bread for himself and family.

In such a gathering of his fellows as this he seems somehow a little changed. The air with which he carries himself is different from that dignified mien seen by admiring friends and patients, when he stalks majestically to his Sabbath pew, followed by Mrs. Doctor visibly proud of him and his ability, and of the position it gives her; while the little descendants of Esculapius trot along behind, looking too innocent for butter to melt in their mouths.

Neither does he wear that professional expression of fathomless wisdom he assumes when he feels your pulse and says: "Lemme see yer tongue," if he is a country doctor; or if he is a Montgomery physician he may euphemistically articulate as follows: "Madam, kindly protrude that flexible member to which the world is so much obliged for your delightful articulation." No; his demeanor is different from that. And the way he wears his clothes! He dons the same hat, but with what a rakish tilt! And his shoes! Well, some poor bootblack has spent an unprofitable hour.

The lines like those of a washboard that were beginning to foreshadow their existence on his lofty brow are temporarily erased. His step is more elastic, and his eye seems to be recalling some of its ancient habits of roving along forbidden lines, of seeking smiles on unauthorized faces. He looks younger, happier, and more competent than he did when he bought his ticket to come to the association.

And the change is in himself also. He has the same old debts to be paid, the same perplexities to be conquered as before, but whereas he may have been facing them with gloomy resolution, he no longer fears. His head is up, and like Job's war horse he says, ha, ha, "To Jimmy McFadden with trouble!" He has courage now to face anything; true American grit that conquers every foe, and an energy that is national like that which is now engaged in the most stupendous surgical operation ever undertaken, namely, the division of the ligamentous union that since the dawn of creation has bound two vast continents to each other like the Siamese twins; while the other surgeons, who tried and failed, look on in wonder. The trouble with them was they lacked the brains of a certain Alabama doctor to show them how it could be done, by removing the one obstacle with which the engineers could not cope. But the voice of medicine spoke, through the tongue of Gorgas, and the rock-ribbed isthmus surrendered.

Whence comes this new access of courage? What is the source of this access of self confidence? The answer is easy to find. Our visiting doctor is realizing again, as he has realized at previous sessions of this association, that it is good to be here; that he is a

valued member; that the members are clever fellows and that he himself is a clever fellow and an able man like the rest of them. So, though some of his Sunday dignity, which is often put on as an armor of self protection, slips off and is lost, he does not miss it. He needs no armor here. He is among friends and fellow workers, all inspired with the same altruistic motive: a desire to do good to their fellow men.

There is nothing artificial or forced about the enjoyment one experiences from close association with his kind. It is a natural instinct, an atavism. It is no modern sociological development. Association was the precursor of civilization. There, while they divided their hunter spoils, they learned to plan for mutual defense. The gigantic horrors that swept through the atmosphere overhead or crashed through the primeval forests around them were less terrifying when faced by throngs that could divide their attention, that when their nightmare forms burst upon them in privacy and solitude.

Succeeding ages demonstrated the usefulness of organized association. It became a principle upon which every new forward step depended. Circumstances may change, but principles are everlasting. No icthyosaurian monster now lies in wait under weedy banks to sieze and devour us, but sly and cunning schemers spin shining webs of fraud to trip our careless feet and snatch the garnered savings from our toil. No mastodon, with impenetrable hide and crushing tread, goes crashing by with swift destruction in his wake, but Standard Oil and the Steel Trust and greedy corporations galore are likewise ponderous in power and are so invulnerable in illegal armor that no weapon hurled by a single arm can penetrate it. Their trails are marked by the ruins of all enterprises that dared to stand in their paths or dispute their passage. Only a national ornithorhyncus, with somber, bat-like wings widespread, hovers over our head ready to snatch our wounded game from our hungry mouths; but there are plenty of other unethical *cusses* to behave like the *ornithorhyncus*, and swoop down upon our practice to steal our patients every time we turn our backs. So the same inborn inclination to get together that banded the cave men, set the red Indians in tribes and assembled the first parliament, still leads all civilized and enlightened mankind along the paths of wisdom and safety and causes doctors to organize in societies and associations for mutual protection and improvement and to forward the general welfare.

This is an age of organization. Lawyers have bar associations. Preachers have synods and conferences. The press has a mighty association. The very bootblacks are organized. There are as many different organizations as there are trades, callings, professions, or religious beliefs. Some of them are farcical, most of them are useful, many of them are indispensable. The working men wield their unions as weapons of defense against oppression. By their means they insure for themselves and their fellows a living wage, medical attendance in illness and in case of death respectable burial. The lawyers protect the bar against practices that might bring ill repute upon the profession. Clergymen meet to discuss the needs of the church in general and of their respective churches in particular, all for the elevation of poor humanity, and, incidentally, perhaps, for their individual welfare. The barbers fix their hours and fees, the working men their hours and wages. Manufacturers decree the total output, divide the fields of influence and fix their prices just within the limits of the tariff fence, along whose fertile lines they flourish worse than poke-root or gympson weed.

The doctors also have their associations with various ends and objects in view, but in one respect they differ from nearly every other one I have mentioned. No organization of doctors that I have ever heard of exists for the purpose of rendering their labors less arduous, adding to their fees in any way, or for doing anything towards insuring payment

for services rendered. They do not divide the territory into spheres of influence, or dictate any medical policy or sect to be upheld.

All such matters are left to the common sense of the people, and the general laws for the collection of debts; and no Legislature need fear that any doctors, organized or unorganized, will ask it to pass measures for their protection or aggrandizement. Yet scarcely a Legislature meets in any state without being petitioned by organized medicine to modify or pass some law or other. Look over the legislative calendar of any state in the Union and you will see bills asking for laws to pay more money to officials, to teachers, "to all sorts and conditions of men," excepting the doctors. The bills they advocate are for the advancement of public safety and public health; bills to protect the eyes of school children or the lungs of toilers in the mines and mills, "and they that languish in prison"; bills to protect our shores from invasion by pestilence, and our cities from the spread of epidemics; but they ask for nothing that can directly or indirectly benefit them any more than it will the rest of their fellow citizens.

The organizations of doctors are not all alike. Some of them are merely for the purpose of reading and discussing papers upon subjects of special interest to the medical profession. They are fine and helpful bodies of earnest, scientific men, and the work they do tells more and more every year on the character of the profession all over the world. No association of doctors would begin to live up to its opportunities and duties unless it spent most of the hours of public assemblage in thus studying and solving the problems in medicine, problems whose solution may save the lives of thousands, or even millions as the years roll by; for who can estimate the number of homes that will be rescued from desolation by diphtheria antitoxin alone, by the time another century marks twelve on the dial of eternity.

But there is a highest place in every field, a summit to every eminence, and the doctors of Alabama have reached the topmost pinnacle of altruistic organization. Not only have they distinguished themselves by scientific work of the highest character by sending forth into the world such representative men as Sims, Thomas, Wyeth and many others like them, but they have persuaded their fellow citizens to place in their hands the execution of the laws protecting the lives and health of the people of the state and the protection of its borders from epidemic invasions. Time is not at my command to specify the many responsibilities they have thus assumed. The purity of your food and drink, the conditions governing the light and air in your public institutions, the isolation of infectious and contagious diseases; completed plans for the instantaneous organization of an army of quarantine inspectors, every man of whom knows his appointed place and stands ready to occupy it at a moment's notice, and yet is no expense to the state unless called to duty; the sifting of the wheat from the chaff among the multitude of recent graduates in medicine; these and many other duties organized medicine is performing in Alabama, silently but surely like one of the unseen forces of nature. These lovely ladies, whose faces bloom in the audience before me like summer roses in a bower of darker foliage, rest secure in confidence that organized medicine, whose name or the fact of whose existence never enters their pretty heads, will protect them and their dear ones from such dangers as tonight assail helpless millions across the western ocean. Over in China the plague is destroying the very instincts of humanity. Husbands desert their wives, mothers flee from their children when the mark of the black death is set upon its victims. In terror the survivors cast the poisonous bodies into the streets to load the atmosphere with more infection. It is a land of wailing and despair, and in its misfortunes it is not alone, for other people in that region are groaning under the same affliction. But amid the terror and despair the medical mis-

sionary calmly moves among the stricken, impelled by Christian duty. Which will serve the more quickly to plant the seeds of Christian civilization among the heathen, the unarmed medical missionary or the ironclad dreadnaught?

Let us turn from those dismal scenes and survey one far different. It is a home in Alabama. The warm spring sunshine kisses the tender green of the trees and plants just wakening from their winter sleep. The fragrance of flowers, the song of birds, and the hum of bees are answered by the distant voice of the ploughman singing as he turns the fertile soil. On the broad veranda sits a proud young mother, a sturdy boy playing at her feet, a plump, happy baby kicks and crows lustily in her lap and sees its heaven in her eyes. Peace, prosperity and happiness brood in blessing over the land. What wonder that the Alabama father, looking upon the scene, thanks that other Father which is in Heaven that he is able to say "in Alabama here we rest."

Look on this picture and then on that other, and when you realize that only organized medicine stands guard between the two you may perhaps better than ever before appreciate its usefulness. That usefulness is beyond dispute. It is more than useful, it is a supreme necessity. Its absence would lead to chaos. Preachers and lawyers might abandon their organizations, corporations might yield their charters, unions might disband, but still the work of the world would somehow go forward and society would continue to exist. But once let the protecting arm of medicine, which now so skillfully, so silently, but so surely, holds back from our shores that unseen danger, be withdrawn, and before twelve months could pass over our heads there would creep into the hearts of our cities such appalling dangers that when their liberated possibilities began to bear fruit unchecked, the blackest days of history might be again enacted. The swarming populations of the submerged districts would be projected by terror in every direction away from the grizzly horror, laws would be paralyzed, and the foundations of society would for a while crumble in anarchy. Perhaps such thoughts are unprofitable in view of the watchful care exerted every day and hour by capable doctors stationed on guard. Such an epidemic as slew one-third of the entire population of Europe in one year can never happen now, but why not? There is but one answer to that question. Organized medicine has assumed the responsibilities and armed the more enlightened nations with a scientific quarantine that really protects. Thus far, moreover, the broad oceans have proved to be efficient barriers between our great cities and those where plague prevails. Nevertheless, a grim possibility remains. Though no plague-stricken man could live to cross the ocean in the olden days, it is not so certain in this age of steam, and we know that a succession of plague-infected rats must have landed a survivor to plant the poison in the burroughs under the lazzarettes of San Francisco some years ago, and though there has been no epidemic in that city, it is only because of the organized protection which I have already described. And the seeds of plague now exist on both shores of the Pacific. It is, therefore, to the interest of all that the efficiency of medical organization shall be maintained. You need it, fair ladies, for the protection of yourselves and your loved ones. You need it for the sake of the increased efficiency it gives to the medical ability of your family physician. Medicine is a liberal profession. Its members have no professional secrets from each other. If an earnest physician seeking after truth discovers a new medicine or an unknown effect of an old one, or some undescribed peculiarity of a disease, he at once proclaims aloud the newly found truths, tells them to his medical friends and publishes them in their journals. Your own doctor hears or reads of such a discovery and tries it out. Your neighbor's doctor does likewise, and so does nearly every doctor in town. Then they meet in the county medi-

cal society and compare experiences and opinions. It has happened in past years that some member of such a small society has been the first to report the virtues of a valuable drug. Such was the case with *veratrum virde,* and with *viburnum prunifolium,* two medicines that have worked blessed miracles for many a suffering woman. So you see, my dear madam, it is well for you that medical organization exists. You should encourage it. You should ask your doctor if he is an active member of his county society. If he is not, tell him you would think better of him if he were. There are exceptional circumstances that would excuse his lack of attendance, but unless they exist he is derelict in his duty to your children, to you, to his fellow citizens and to his profession.

And it is of weighty interest to you business men, who direct the commerce and control the cash of your community. Leaving out of consideration the necessity of competency in your family physician, the powers and duties confided to the hands of organized medicine in Alabama may, at any moment, save hundreds of thousands, perhaps millions, to the state. Have you ever suffered from a shotgun quarantine? Do you remember how business dropped dead, stocks rotted on your hands, bills receivable were so much waste paper while bills payable were a nightmare? Do you remember how long it took to re-establish the steady flow of commerce and accomplish a return to business sanity and activity? Well, only the State Board of Health, which is the organized profession of medicine, acting in concert with other organized doctors, keeps you at this very moment from suffering just such destruction of trade. So secure does the American people feel under the protecting wing of a sane quarantine system that it does not realize what would happen were that protection withdrawn. Suppose we suddenly learned that there was no longer any quarantine. Every day ships from parts of the world where infection exists come to our ports. Let just one case of plague appear, and no organization of doctors be in existence ready to take charge, and the panic that would result would throw entirely into the shade anything that the yellow fever ever caused. So it is vitally to your interests also, men of business, that we doctors shall maintain an efficient organization to watch while you work or sleep. But the people more deeply interested than any others, the men whose every effort depends for success upon organization, are the doctors themselves. Though they seldom realize it, they are surrounded by hostile influences. Unscrupulous and half educated pretenders brazenly proclaim themselves especially qualified to heal, and their vile behavior throws a shadow on the reputation of the whole profession. They rob the people right and left, and the doctors bear part of the blame. No single arm can cope with such quackery and bring the malefactors to justice. It requires the combined influence of the medical profession to induce state legislatures to enact laws to stop such practices. Even recently we have had an illustration of the difficulty of procuring such legislation. The watchful mind that executes the will of this great association during the intervals between its meetings, aided by the counsels of the wise and experienced men appointed by it to assist him, submitted to the Legislature of Alabama for passage a bill making it a misdemeanor for any doctor to advertise himself or his drugs or his practice *in such a manner as to deceive the public in matters pertaining to health.*

It would look to an outsider as though every sensible person would recognize the justice and desirability of such a law. But not so. Almost the entire press of the state was violently opposed to it. Although it proposed to do no more for the purification of the practice of medicine within the boundaries of the state than is done by the "Pure Food and Drugs Act" for articles over the whole country, yet the howl that went up from the newspapers that the liberty of the press was being assailed was so great that it rendered the pass-

age of the bill impossible in its original form.

It made no difference that a man could advertise as much as he pleased so long as he did not lie in such a manner that it would "tend to deceive the public in matters of health."

I am willing to concede that the editors were sincere in their apprehension that free speech and the freedom of the press were imperiled.

I take no stock in the suspicions harbored by some that the fact that that law would result in cutting out from certain leading newspapers advertisements that pay one or two hundred dollars a week, had something to do with the force of their expressions. No, indeed. That great institution, the newspaper press, has demonstrated its right to be heard upon all public matters, and that its conclusions or opinions are worthy of respect. This time the papers were certainly in error. Nothing but fraud was imperiled. But I have talked about the doctors and their organizations long enough. There are a few words I wish to say directly to them.

Gentlemen, in spite of the magnificent success the Medical Association of the State of Alabama has achieved, in spite of the high regard which is entertained for it by physicians all over the civilized world, in spite of its apparent indestructibility, those who love it best fear for its future. As they strive to forecast the conditions which are to come, in the light of those at present prevailing, threats of coming misfortune, if not of absolute disintegration, seem to cast their somber shadows.

The association is composed of very human men. In this, as in other organizations, the most ambitious are the most active and restless. The younger members of that class, not content to wait for their promotion along old, established lines, are seeking to modify the organic laws of the institution in ways that will enable them sooner to realize their ambitions. With no thought as to the ultimate effect of their proposed changes on laws that are the result of years of anxious forethought and observation, they offer their crude amendments or resolutions and fight for them with all the energy and eloquence they can command. They make converts among the less experienced and secure supporters among the older but less judicious members. Thus far the cool, unanswerable arguments of wiser heads have prevailed, not because they have outvoted the thoughtless element, nor yet because of personal influence, but solely because the Alabama doctor is, when not confused by self interest or prejudice, a reasoning animal; and when he hears the arguments he sees the truth. But the old guard cannot live forever. One by one their voices are stilled. Year by year the influence of their memory wanes, at least at home, though abroad it may increase, and it must soon be that entirely new hands will control the helm and sail the ship. Our hope for the future lies in the loyalty and wisdom of the new members of the county medical societies. Those societies are the very heart and soul of the organization. With few exceptions they have carefully guarded the important trust reposed in their hands. Their solid common sense has refused to be clouded by mistaken efforts of good, but short sighted, members who seek to make unwise changes. Their prosperity is of first importance. Unless they flourish, the association will languish; unless they endure, it will die, or degenerate into a mere debating society, where every doctor "thanks every other doctor for his excellent paper," and "is sure the society is much obliged to him for presenting it." Meanwhile the safety of the state from invasion by plague, cholera or yellow fever would lapse into the hands of the politicians. Then God help us! The stringency of protective measures would be gauged solely by the effect they had on commerce. (Life or death would be of secondary interest.) This is no exaggeration. One sentence will prove its truth, namely: What politician would be brave enough to refuse the request of a great railroad president, of a merchant prince

who was active in politics, to postpone the establishment of quarantine just for a few days? You know the answer. Not one. Our only safety lies in keeping up our county medical societies, and the way to do that is to make them interesting and popular. Get your patrons interested by talking to them about the usefulness of the organization along the lines I have indicated. Show them how they are protected and how their doctors are improved. Be regular in your attendance and always have something to say. Encourage the younger members to talk. Ask them questions. Show them what good fellows you can be, and let them show you what good fellows they are.

Get your respective neighborhoods interested in matters of public health. Lead in movements to eradicate mosquitos and flies. There are ways in which you can legitimately invite public attention without being guilty of self advertising. Let the advertisement benefit the whole society. Stir up public interest by getting up meetings to discuss all sorts of public health matters, open-air life, out-of-door sleeping, proper cooking, proper exercise, proper rest, which is too often neglected. Tell the dangers of baby-kissing, for one thing. In a word, let your county society wake up and prove to your community that you are not just a lot of cold-blooded loafers watching for a chance to charge a fee, like a lot of garfish under the lily-pads, feeding on minnows, but live, earnest, patriotic men of science who, though they demand a living wage for their ability and work, do not consider that money is the chief end of medicine. The catechism teaches us that the chief end of man is to "Glorify God and enjoy Him forever." Of course, that is also the chief end of every physician, but next to that his chief object is: *"To cure his patient, promote the health of those who trust him, and win the respect and love of all who know him."* Teach this doctrine in your county societies, or in conversation with its members; and if this principle continues to control our profession in Alabama it will act as an efficient antidote to any insidious poison that personal ambitions may try to instil into our councils. So mote it be!

CARDIO-RENAL TREATMENT.*

By J. BIRNEY GUTHRIE, M.D.,
Professor Clicinal Medicine, Medical Department, Tulane University.
New Orleans, La.

It has been my luck lately to see a large number of very badly working hearts in patients showing extreme pictures of heart breakdown—very large dilatations, general dropsy, swollen livers, pulse weakness, shortness of breath, all the well known signs of broken down heart.

Some have the habit of drenching these poor creatures with water and diuretic mixtures. Even salt fluid I have seen used under the skin or into a vein, forsooth, to wash out the kidneys. Looking back on a number of recoveries from the dilatation under this method which I have seen and some of which I was guilty of, I am astounded they all did not die. Seaching for a wherefore, I must put it to the rest in bed and purgation which went along with the water and which they all got. It is the custom with many to use digitalis in every case of heart damage, excepting perhaps mitral obstruction, and at every stage. Now we know that in dilatation

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of a certain degree we get no result from digitalis, but an increase of the dilatation. We know that some of the excess vein pressure must be gotten rid of before our heart whips can act. To that end we purge and perhaps bleed these patients and restrict liquids drunk before applying the whips. It is the writer's opinion that more of these cases are to be saved using this plan than from the routine use of digitalis or some of its near-of-kin drugs. At times there are cases which are so far gone that we must take a chance on further dilatation and give digitalis, knowing there is no time for depletion. We are here even justified in using digalen (soluble digitoxin) or strophanthin intravenously. It is startling how some of these cases die after intravenous digalen. The end came more rapidly, I am sure, to some; but they would all have died without the drug. It is as near "kill or cure" as I know of. On the other hand, the response to the drug thus given is, at times, as strikingly beneficial as it is harmful in other cases. The conclusion is we do not know just how to select our cases for this treatment. I believe that we must use digitalis in all cases tentatively, excepting those in such dire weakness that death is imminent and time is lacking to do more than open a vein. Stop digitalis if patient's symptoms get worse under its use. Digalen and strophanthin given into the vein in dose of 1 m.g. allow no chance for further treatment if not well borne.

Where the kidney is the primary organ affected and the heart enlargement, with or without dilatation, is the result of increased blood pressure, we see practically the same state of affairs as when heart and kidney have become diseased through the hardening of the vessels. In the latter case the problem is faced, first, by treating the vessels in such a way as to increase their elasticity. The giving of iodides apparently brings this about and they are useful in the greater number of cases of arterial hardening. In all cases where blood vessel disease is primary and those in which vessel hardening is secondary but of an advanced degree, the iodides are far and away the most useful of all drug measures. I am convinced that iodides in this condition have an effect entirely separate and distinct from their effect in syhpilis, although this may be the underlying cause of the artery disease; in which case the effect of iodides on vessels would be even more striking. Small doses, in my experience, have nearly always been enough where any result at all was ever seen. It is my belief that the effect of iodides in arterial hardening will at last be shown to be due to a stimulating effect on the thyroid. When all is said that is known about this drug in this condition, there is much unaccounted for. It is to be hoped that a greater use of the Wasserman test will give additional clearness to our idea regarding syphilis as an etiological factor in arterial hardening and aneurysm.

The second means to be used in heart-kidney changes secondary to vessel hardening is ordering the life of the sick one so as to keep blood pressure as nearly as possible at a definite, steady height and thus avoid a very important cause, which makes for vessel hardening—variation of pressure. This hygiene of the vessels means, usually, giving up alcohol, tobacco, coffee, excesses in the line of work or sport; a diet composed of non-stimulating and easily-digested foodstuffs, containing only a moderate quantity of fluids and a low quantity of nitrogen, purins and extractives.

If the kidney is the first organ involved, more care is necessary in use of kidney irritants to get rid of fluids than if the signs of kidney disease point only to venous engorgement of the kidney. As a matter of diet in these primary kidney diseases, it is wise to bear in mind the daily nitrogen need of the body and not exceed this in daily intake; to enforce rules of life which will aid in keeping an even and horizontal blood pressure curve (vessel hygiene) and be on watch for signs of kidney failure, meeting these as they arise. If this is done one may usually get along without such drugs as nitrates, which lower blood

pressure. Pressure raising measures are not usually needed here.

Many cases present themselves in which it is rather hard to say, at first, whether heart, kidney, or vessel is primarily at fault. The signs common to them all are dilated heart, general dropsy, air hunger, scanty urine, swollen liver, rapid, feeble, and irregular pulse. This combination means broken down heart which demands immediate treatment, if the cases are to be saved. Fortunately the treatment is the same, no matter what the first cause. The withholding of fluids, excepting in very limited quantity—24 to 30 ounces—is among the most valuable measures to be used. I have abandoned the drenching plan completely and no longer look for uremia to occur, where fluids are limited. The solid diet must be solid in more than name or the quantity of water taken will be far more than the amount intended. Where the patient may be trusted, water may be allowed as a mouth wash and gargle. Thus used it is surprising how comfortable these patients can be made on the limited fluid.

Withholding of added salt from the diet helps the patient to endure thrist and I am sure, changes osmotic conditions, thereby hastening absorption. Even a slight shrinknig of dropsy makes it easier for the heart to force blood through the capillaries, and very slight changes in pressure conditions often cause rapid vanishing of dropsy. Some of these cases which make little or no progress for a time seem suddenly to become changed as the heart muscle improves in tone and the greater part of the fluid vanishes in a day or two. Measure of the daily urine is the gauge of treatment and we sometimes see quite as striking change of appearence in these cases of broken down hearts on rest, dry, salt-free diet and purgation as we see with addition of digitalis. However, digitalis is in demand at some stage of most broken down hearts. It fulfils every indication. There is a chemic effect on the heart muscle which shows by a stimulation that certain fibers are intact. It is impossible to tell whether there is enough digitalis sensitive substance in heart muscle to cause it to respond to treatment without tryng. Failure to respond to digitalis means a rather advanced degree of muscle degeneration. Degitalis is almost an ideal agent. It slows the pulse, lengthens diastole, thereby lengthening the time when the heart muscle itself is fed through the coronary arteries; increases the height of pulse wave; increases artery pressure; reduces vein pressure through increasing suction power of heart. Objections of digitalis are bad taste and smell and its tendency to cause stomach and intestinal catarrh after a time.

Standardized preparations must be used if we wish to avoid confusion growing out of variations which have been found to be as great as 1 to 400 of active substance. Beyond doubt the law should require a frequent testing of digitalis preparations by the druggist himself by means of frog heart experiments in order to alter dosage to suit the case. This can not be while the present low standards of pharmaceutical education exist.

Purgatives in form of strong salines or jalap are of great use in these dropsy cases. Even venesection must be done sometimes in order to save life which is threatened by dropsy of lung due to too great pressure in the pulmonary veins. I have used venesection and intravenous digitoxin with most striking effect in three cases of acute dilatation. Opiates, preferably in form of hypodermic injections of morphine or codein must be used fearlessly and pushed to effect in all these cases of broken down hearts where there is air hunger, sensation of oppression or even psychic disturbances due to fear. No hesitation need be felt in using this drug—no matter what the state of the kidney. I have never seen harm result from its employment. It makes possible the essential of rest which is so needful in these cases, and which my colleague, Dr. Lemann, brought out in a paper read before this Society. All these are equally damaging to the heart. I have seen dilatation of a heart occur and very nearly end fatally on the patient receiving and reading

a letter containing bad news, just as I have seen psychic causes contribute to fatal end in Yellow Fever.

Diet in primary heart conditions varies with stage of break down. If break in compensation exists a fairly varied diet containing a generous protein allowance and a moderate carbohydrate quota is best adapted to build up the heart muscle. The use of such a diet avoids throwing strain on the heart through raise of blood pressure that would follow if gaseous fermentation or indigestion of food occurred. Carbohydrates we know are more prone to cause gaseous formation than other foods. I have record of one case where death resulted in a middle aged, obese man whom no cardiac disease had been suspected, after a feast at night. Indigestion resulted and the pressure of gas in the bowel plus the presence of a great mass of food in the stomach, probably pushing up the diaphram and crowding the heart as well as throwing increased work on the right heart caused death from lung dropsy.

Diet when the kidney is not damaged may well contain a larger amount of nitrogen stuffs than where this organ is the seat of intrinsic change. Rest in bed must be insisted on wherever the degree of break down of heart or kidney is considerable, until a change for the better occurs. Tissue change is thus kept up at lowest level and the tax on heart and kidney is less.

If we bear in mind the fact that our heart patient suffers from an overfilling of the veins and a passive engorgement of lung and increase of pressure in the right heart, we can see why he wishes to sit up in order to breathe. This is allowable and we find ourselves designing benches to be placed in the bed and hammock slings for the head and arms, to give support to the head while sleeping sitting up. Here instinct prompts wisely and we should help. Orthopnea means right heart overfilling. It has long been my firm belief that we fail in our duty to these heart cases if we do not take them in hand after compensation is re-established and by Nauheim baths and exercises re-educate the heart muscle and so strengthen it that notwithstanding a leaking valve or a degeneration of a part of the fibers in the heart wall, the organ becomes again equal to doing work even over and above daily need. This is a side of treatment often neglected in America.

Treatment of heart kidney conditions resolves itself largely into treatment of the heart muscle. There is absolutely nothing to be done for a diseased valve and even where kidney or vessels are first diseased the heart muscle is the point toward which we direct our therapy.

To this end we must lighten the labor of the muscle by depleting measures, purgatives, diuretics if the kidney is sound, rest in bed, where possible; by use of opiates if there is distress; by cutting down the drinking of fluids to lowest limit.

Digitalis prolongs the rest period in the heart beat and in most cases is needed at one time or another. Rarely will nitrates have to be given at the same time to combat the constrictor effect of digitalis. Arterial hardening usually means that iodides will do good. Sweating is dangerous in great heart weakness; and if done should best be carried out with an ice bag or cold coil over the heart. Salt ($NaCl$.) restriction helps absorption of fluids or at least hinders their accumulation. The heart muscle must be fed in order that it may build up and food must be such as to cause the least possible rise of blood pressure.

305 *Basourie St.*

PERSONAL OBSERVATIONS ON THE TREATMENT OF SYPHILIS WITH A BRIEF REPORT OF CASES.*

By R. H. VON EZDORF, M.D.,

Passed Assistant Surgeon, Public Health and Marine Hospital Service, Lecturer on Tropical Diseases, School of Medicine, University of Alabama, Mobile, Alabama; and

JOHN O. RUSH, B.S., Ph.G., M.D.,

Acting Assistant Surgeon, Public Health and Marine Hospital Service, Lecturer on Genito-Urinary Surgery and Venereal Diseases, School of Medicine, University of Alabama, Mobile, Alabama, and Attending Genito-Urinary Surgeon, City Hospital, Mobile, Alabama, Attending Genito-Urinary Surgeon, University Dispensary.

It is not our intention to review the bibliography on the use of Salvarsan or "606," the Ehrlich-Hata preparation of arsenic for the treatment of syphilis. This has been carefully reviewed in the form of a publication entitled "The treatment of syphilis with Salvarsan," by Dr. Wilhelm Weshselmann, with an introduction by Professor Paul Ehrlich and translated into English by Alb L. Wolbarst, M. D., of New York, including the English bibliographical references to January 21, 1911, also in a medical symposium published by the Interstate Medical Journal Company.

We, therefore, are limiting our paper to personal observations and results obtained by the use of this new remedy. All are aware of the startling and marvelous results reported.

Since January 1st, 1911, the drug has been on the market available to the general profession, so that we, of course, have not had sufficient time to observe more than the immediate effects from the use of this new remedy. We hope, in a future report, to give results as to its permanent effects. We may not add much that is new, yet we feel justified in making this report on limited observations from the fact that results in its use have in general confirmed the wonderful results previously reported.

The use of the new preparation in syphilis demanded our careful attention regarding its application in given cases.

Under the subjects of indications and contra-indications given by different observers, we accepted and were guided by the following:

Indications:—First, in all cases with primary, secondary and tertiary lesions except those noted under contra-indications.

Second: Cases in which mercury and iodides are not tolerated.

Third: Cases in which the disease remained unchanged even under vigorous anti-syphilitic treatment.

Fourth: Cases giving positive Wasserman reaction, which is indicative of the continued activity of the disease, six weeks after the first injection.

Contra-Indications:—First: Optic nerve involvement, (unless recent syphilitic.)

Second: Acute or chronic parenchymatous nephritis.

Third: Severe involvement of nervous centers, (not recent.)

Fourth: Involvement of the cardio-vascular system, particularly in the aged. Aneurisms or marked arterio-sclerosis where there may be danger of hemmorhage or angina. Under this heading, one case, giving a history of repeated retinal hemorrhages, was refused treatment.

ADMINISTRATION.

Three methods are employed for the administration of Salvarsan, viz: Intravenous, intramuscular and subcutaneous. The first two of these methods were employed by us.

We considered the indications as to the method of administration to be as follows:

*Read before Mobile County Medical Society, April 15, 1911. Read before Medical Association, State of Alabama, Montgomery, Ala., April 21, 1911.

First: For intravenous method. Subjects must be in good or fair physical condition. This applies to all cases with primary, secondary and resistant tertiary lesions. In any malignant cases where there are destructive and mutilating lesions.

Second: Intramuscular. In all cases showing constitutional weakness and cachexia where it is desired that the absorption of the drug should be slow, and in whom the more endo-toxic symptoms are to be avoided.

TECHNIQUE.

It is, of course, to be understood that sterilization cannot be done at any time during or after the process of preparation of the drug has begun, and it is therefore necessary that all apparatus for its preparation and administration be previously sterilized.

The following is a list of apparatus and solutions used:

Burettes.
Glass pipettes.
Glass mortar.
Glass graduate.
Cylinder graduate.
Glass stirring rods.
Glass hypodermic syringe.
Rubber tubing.
Needles for infusion, (in test tube).
Towels, gauze and operating gowns.
Normal salt solution (o. 85% C. P. sodium chloride in distilled water).
Normal acetic acid, (glacial acetic 10 c. c., distilled water 166 c. c.).
Hydrochloric acid, 1% solution.
Normal sodium hydrate, (sodium hydrate 4 grams, distilled water 100 c. c.).
Distilled water 1,000 c. c.

Glassware, so far as practicable, is usually sterilized by dry heat at 150 C. for one hour.

Burettes, on account of the length, gowns, etc., by dry steam at 15 pounds pressure for one hour.

All solutions were sterilized in the Arnold steam sterilizer for one hour, counting time after steam was up.

Having all apparatus ready, the following is a brief description of our technique in the preparation of the drug:

After sterilizing the tube containing the Salvarsan, the tube was cut with a sterile file, the powder poured into a sterile glass mortar or 50 c. c. glass graduate, and 10 c. c. of sterile normal salt solution, at 50 C., drawn with a sterile pipette and slowly added to the powder. This is constantly stirred with a sterile glass rod until the powder is completely dissolved. The solution obtained is perfectly clear and has an amber color. We then add from a burette, sterile normal sodium hydrate solution, constantly stirring.

Upon the addition of the sodium hydrate a precipitate is formed of large soft flakes, which reaches a stage, after the addition of about 1.1 c. c., of bright yellow paste. The sodium hydrate is constantly added until this paste goes into solution and is finally completely dissolved, making a bright, clear amber solution. This solution is alkaline in reaction, which may be determined by allowing a drop of it to fall off the glass stirring rod on a bit of red litmus paper. By the slow addition of the sodium hydrate solution, together with the constant stirring, it was found that a minimum of sodium hydrate solution was employed. Where desired for intramuscular injection, it is of course desirable to reduce the alkalinity as much as possible, and for this purpose sterile normal glacial acetic acid or hydrochloric acid, one per cent, is added until the Salvarsan is again precipitated, remaining in suspension as a very fine powder. We find that the use of one-half per cent of phenolphthalein in alcohol as an indicator is of no particular advantage.

After preparing Salvarsan by this method, it is added to a reagent bottle containing normal sterile salt solution at a temperature of 40-50 C., making up a quantity of 300 c. c., which when administered has a temperature of approximately 37.8 C. This is for intravenous injection. When prepared for intramuscular injection, it is diluted to 20, 30, or 40 c. c.

We found a variation in the total amount

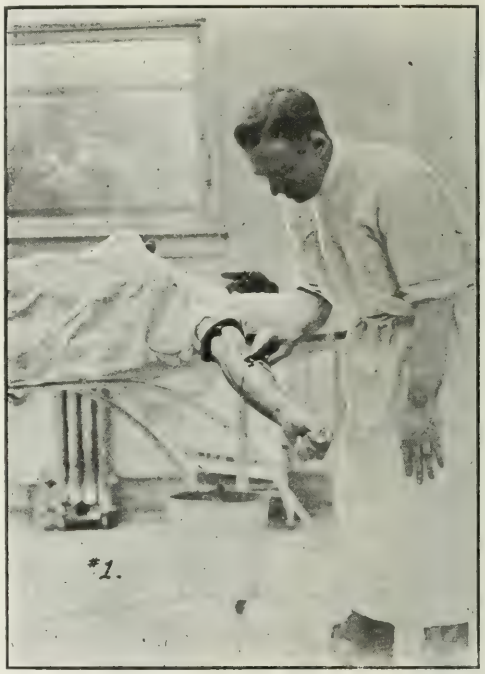
of normal sodium hydrate necessary to completely dissolve the Salvarsan. This varied from 3.8 c. c. to 7.1 c. c., averaging 5.2 c. c. We also found a variation in the weight of the Salvarsan, which weighed between 0.57 gram to as much as 0.7 gram, averaging in 33 tubes 0.62 gram. This gives approximately an average of 0.8 c. c. of normal sodium hydrate used per 0.10 gram of Salvarsan. The solution, as obtained, rarely requires the addition of acetic or hydrochloric acid, as the minimum quantity of sodium hydrate has been used. This fact was brought out that by the addition of one or two-tenths c. c. of acid solution, the Salvarsan solution became slightly cloudy, due to the precipitation of the Salvarsan, which did not dissolve on stirring, requiring the addition of an equal amount of sodium hydrate solution to again bring it into a clear solution. We also observed a variation in the color of Salvarsan. The powder, in some tubes, was of a bright yellow color, which upon being shaken down, left the glass container perfectly clear. Other tubes were found to contain a yellowish gray powder and on shaking down seemed to adhere to the glass container. This prompted us to refuse, at first, to purchase and use the last mentioned preparation, believing that the difference in color was due to some deterioration in the drug. We immediately took up the matter with Victor Koechl & Company of New York, who are the sole agents for Salvarsan in the United States. A reply received by them by cable was as follows:

"February 14, 1911.

"Difference in color unavoidable and of no consequence. The Salvarsan in stock was tested by Professor Ehrlich as to action and color and found good."

For intravenous infusion we prefer the use of the veins of the forearm. The skin of the forearm is washed with green soap and water, lathered and shaved. This is followed by an application of tincture of iodine, washed off with alcohol, then with ether, which has a tendency to partly anaesthetise the skin. A tourniquet is then applied about four inches above the elbow; a large vein selected, preferably the median cephalic, though the anterior radial or ulna vein is used. The puncture is made with the needle directly through the skin into the vein or a small "V" shaped flap is made in the skin exposing the vein, or the vein is dissected up.

About 10 c. c. of blood is allowed to flow, which may be collected for a Wasserman reaction, if desired. A direct-way burette, ca-



First Step.—Direct Puncture of Vein, Showing Blood Running from Needle.

pacity 50 c. c., to which a sterile rubber tube is attached at the lower end, with a funnel containing sterile gauze for filtering at the upper end, is now filled with sterile normal salt solution at a temperature of approximately 40 C., and then washed out, refilled with normal salt solution and all air driven out of the tube.

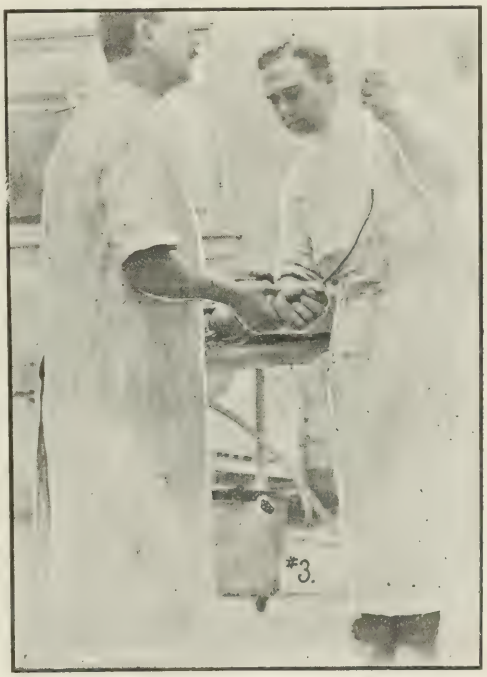
While the blood is still running from the needle and the salt solution running from the tube, the tube is attached to the needle by means of a slip joint. The tourniquet is removed and the salt solution allowed to run

into the vein. It being observed that the salt solution is running into the vein and not leaking into the tissues around the vein, the Salvarsan solution is now poured into the funnel. The flow is regulated by raising or lowering the burette. After all the Salvarsan solution has been poured into the burette, sterile normal salt solution is poured through the funnel into the burette until all the Salvarsan solution has been forced out and nothing but clear salt solution is running into the vein. Between 75 and 100 c. c. of this salt solution is given before removing the needle. The entire operation requires from seven to fifteen minutes.

SECOND STEP.—INTRODUCING NORMAL (85%) SALT SOLUTION, BEFORE STARTING SALVARSAN SOLUTION.

On removing the needle the arm is raised, sterile gauze saturated with alcohol is placed over the site of puncture. This stops any bleeding. The puncture is then sealed with collodion and dressed with sterile gauze, fastened down with adhesive plaster. All intravenous injections are made in the operating room, with the patient lying on the table and under the same conditions as for any surgical operation. After the injection, the patient should remain on the table for one-half to one hour before being moved to the bed.

The Salvarsan for intramuscular administration was made up to 20, 30, or 40 c. c., with sterile normal salt solution and given intramuscularly deep into the Gluteal muscle. The total amount is divided and given into each buttock, 10 c. c. at each injection made. For this purpose we use an all glass syringe.



THIRD STEP.—INTRODUCING SALVARSAN SOLUTION.

All patients are put to bed after administration of Salvarsan.

CARE AND OBSERVATION OF PATIENTS.

Our patients are required to remain absolutely at rest in bed from three to five days; a record of their pulse and temperature kept every two to three hours where practicable. All urine is collected and saved during the first forty-eight hours for examination.

It having been found that vomiting frequently follows the intravenous method of

administration of Salvarsan, our patients were not allowed any food during six hours previous to its administration. After its administration they were kept on milk diet for the first twenty-four hours. A mild calomel purge is given, followed by a saline, during the first day. All conditions being favorable, patients are placed on regular diet beginning the second day. It is a notable fact that patients suffering reactions do not appear sick.

Again, others showed secondary rises on the second day, reaching as high as 39 C. However, on the fourth or fifth day, the temperature remained normal in the majority of cases

Eight injections were made into the Gluteal region, three of which were reinjections. These cases showed no appreciable rise of temperature, the highest recorded being 38.2 C. One injection given in the lumbar region gave a rise to 39.4 C. The temperature in this case showed constant rises for ten days, ranging between 37.2 and 38.8 C.

Fourth Step.—Introducing 100 c.c. Normal Salt Solution After Salvarsan.

Complete.—Site of Puncture Dressed with Collodion and Cotton.

Summarizing the reaction following the administration of this drug, the chief symptoms noted were as follows:

Temperature: Most of the cases of intravenous injections showed a primary rise of temperature ranging from 37.2 C. to 39 C. This rise was only temporary, lasting from three to twelve hours before subsiding to normal. After reaching normal, the temperature varied, in some remaining normal, in others slight daily rises to 38 C. occurred.

Pulse: With the access of fever there would be an acceleration of pulse, but in no case did this exceed 110. Throughout the entire period, the pulse remained about normal, the acceleration being coincident with the rise of temperature.

Respiration: With regard to respiratory symptoms, respiration remained from 14 to 22 per minute. No dyspnoea or symptoms referrable to cardiac interference were noted.

Nervous: In one case, No. 15, an epileptic

No.	Race	Age	Date 1911	SALVERSAN Org Wgt	Empty	Net Wgt	Amt NaOH paste cc	Amt NaOH Nused cc	Amt. Acid cc	Method of admin	Wasser before adm.	Wasser after adm.	Spiroch pallid before	Spiroch pallid after	Reaction following administration and Remarks.
1	W	21	Jan. 25				2 1	7.1	1.3Acet. 1%	Intravenous	†	‡ Mch.19	—		No symptoms.
2	W	53	Jan. 26				1 7	6 1	3.3 Acet. 1 %	Intramuscular	‡	— Apr. 11			Full dose. Soreness in muscles over Lumbar region. Temp. 10 days between
	W	53	March 3							Intramuscular					No pain. Dose ¼. (37.2 and 39.4
3	W	26	Jan. 27				1 7	6.1	3. glacial 1 %	Intramuscular	†	† Feb. 28			½ dose. !Pain extending down thigh and leg to toes during first 4 hours, some soreness continued 3 days.
	W		Feb. 28	3.80	3 17	0 63	1 2	4 8	0.1 HCl dil.	Intramuscular	† Feb. 28	— Mch. 29			½ dose. No fever. Slight soreness for 3 days.
4	C		Jan. 27							Intramuscular	‡	— Feb. 28			½ dose. Little soreness. Very little rise in temp. 3 days. Pain on 3rd day.
			Feb. 28							Intramuscular	—				½ dose. Considerable pain after injection. Soreness continued 5 days.
5	W	22	Jan. 29				1 9	5.55	2 cc glacial 1 %	Intravenous					Nausea. Headache. Malaise T. 100.6 1st day.
6	W	17	Jan. 31				1 65	6.	2 cc Acetic 1 %	Intravenous	† † † †		†		Vomited. Headache. Chill—Pain in arm 2nd day. Phlebitis developed.
7	W	25	Feb. 1				1.9	5 55	1 cc Acetic 1 %	Intravenous	† †	‡Mch. 19 ‡Apr. 11			Chill and vomiting.
8	W	42	Feb. 2				2 1	5.3	1.5 glacial 1 %	Intravenous	†	— Mch. 20			Nausea and headache—1st day on.y.
9	W	26	Feb. 4				1.8	4 2	1 cc glacial 1 %	Intravenous	† †				Chill. Vomiting. Nausea 6 hours. Headache. In continence urine. Well on 2nd day T. 101. Phelbitis 4 days.
10	W	35	Feb. 5	4 5	3.9	60	1 1	4.2	1.5 cc glacial 1 %	Intravenous	† †		†		Nausea and vomiting. Slight temp. Phlebitis.
11	W	36	Feb. 6	5 72	5 15	0 57	1.3	4 4	1. cc glacial 1 %	Intravenous	† †	† Mch. 20			No symptoms.
12	W	45	Feb. 9	4.35	3 72	0.63	1 3	4.6	0.2 cc HCl. 1 %	Intravenous	† † †		†		Nausea.
13	W		Feb. 18	4 22	3 52	0 70	1 3	5 0		Intravenous					Chill. Vomiting. T. 101 continued 24 hrs. Report by Dr. H. T. Inge
14	W	17	Feb. 20	4 75	4 05	0 70	1.	6 5		Intravenous	† † † †				Headache and Nausea 1st day.
15	W	32	Feb. 23	4 17	3 47	0 70	1	6 2	0.I. HCL 1 %	Intravenous			†		Vomiting. Epileptic attack on 3rd day.
16	W		Feb. 26	4 27	3 65	0.62	1 1	6.1	0.2 HCl 1 %	Intravenous					Chill. Vomiting. T. 102.
17	C	20	Mch. 1	4.6	4 0	0 60	1.2	4 9		Intravenous			†		Chill. Headache. Vomiting. T. 39.2 C. on 1st day.
18	C	23	Mch. 1	4.17	3 52	0 65	1 2	5 7		Intravenous	† ††	† Apr. 11		— 3d dy	Chill followed by headache and vomiting. T. 38.4 C 1st day.
19	C	50	Mch. 3	4 04	3 43	0 61	1	4 9		Intramuscular.					25cc of a 40 cc sol. No pain complained of.
20	W	24	Mch. 6	4 82	4.20	0 62	0 8	3.8	0.1 cc N-1 glacial	Intravenous	† † † †		—		Headache and nausea. T. 100.6 F.
21	C		Mch. 14	3.45	2.825	0625	1.1	4 9		Intravenous					Nausea and vomiting. T. 101 F.
22	W		Mch. 15	3.85	3 21	0 64	1	4 3	0.2 cc N-1 glacial	Intramuscular.	†	— Apr. 11			30cc in buttocks. Pain severe. T. 38 C. on 3rd day.
23	W	50	Mch. 17	4 47	3 82	0.65	1	4.8		Intravenous	† † † †				Light chill and vomiting—dull headache. T. 38.8 C.
24	W		Mch. 18	3 82	3 215	0605	1 1	5		Intravenous	† † † †	— Apr. 13	†	— 24 hr	Chill and vomiting 2 hrs. T. 101 F.
25	C	28	Mch. 20	3 80	3.19	0 61	1 1	4.9			‡	— Apr. 11	†	—48 hrs	Chill—vomiting—"Buzzing" and slight headache. T. 38.4.
26	W	35	Mch. 22	4 02	3.415	0605	1 1	5		Intravenous	† † † †				Chill, vomiting. T. 102 on 1st day. Well on 2nd day.
27	W	30	Mch. 22	4125	3 550	0575	1 1	5		Intravenous	† †				Chill—vomiting. T. 100.2
28	C	25	Mch. 23	4.52	3.89	0 63	1.1	5.2		Intravenous	† †		—		Nausea. Headache. Temp. normal
29	W	30	Mch 31	4.34	3.75	0 59	0.8	4 7		Intravenous	† †		—		Nausea, T. 100.2
30	W	22	Apr. 3	3 57	2.95	0 62	1.1	4 8		Intravenous	† † † †				Nausea, T. 100.2
31	W	38	Apr. 6	3 75	3 15	0 60	1.1	4 7		Intravenous	† †		†		Violent headache. Nervousness. No vomiting. T. 101.
32	W	46	Apr. 7	3.49	3 87	0.62	1 1	5 45		Intravenous	†				Headache and nausea. T. 101.
33	W	43	Apr 7	4 24	3 635	0605	1.1	5 4		Intravenous	—				No symptoms. T. 99.
34	W		Apr. 11	4 92	3 32	0 60	1	4 6		Intravenous	† †				Marked chill. Vomiting and nausea. T. 102, lasted 24 hours.
35	W		Apr. 12							Intravenous	† †				Hard chill—vomited. T. 101.
36	W		Apr 12	4 32	3.73	0.59	1 1	5.5		Intravenous	† † †				No symptoms.
37	C		Apr. 13	4.53	3.92	0 61	1.1	4.9	0.4 N- glacial	Intramuscular	† in 1910				Soi. diluted to 40 cc. some muscular pain. T. 101. Nausea.
38	C		Apr. 13	4 46	3 82	0.64	1 3	5 8		Intravenous	† † ††				½ dose. Nausea, vomiting.—T.
39	W	43	Apr. 16	3.71	3.12	0 59	1.1	5.4		Intravenous	† † †				No symptoms. T. 100.
*see 18	C		Apr. 16	3.42	2 85	0.58	1.1	5.1		Intravenous					No reaction symptoms. T. 38.
40	W	40	Apl. 17	5.13	4.50	0.63	1.2	5.2		Intravenous	† † † †				Chill, vomiting. T. 102.6
* see 11	W		Apr. 17	3 95	3.35	0 60	1.4	4.9		Intravenous					No reaction except headache.

‡ Faint Discoloration † Faintly Positive †† Distinctly Positive ††† Markedly Positive †††† Absolutely Inhibition

convulsion occurred on the fourth day, this being the only attack he had before or after the administration. Headaches were often complained of. Dizziness was complained of in three cases.

Urine: Urinalyses were made of all cases. The quantity during the first twenty-four hours was usually found to be reduced, the smallest amount collected being 300 c. c. in the case of a boy 17 years old. In most cases it was not below 1000 c. c. Specific gravity was usually increased with the decrease in quantity of urine. Reaction remained acid. Chemical analysis showed no albumen, except a mere trace of albumen was found in one case, which was not an increase in amount of albumen present prior to the administration of Salvarsan. No sugar was found.

Phlebitis: In three cases, given intravenously, Nos. 6, 9 and 10, traumatic phlebitis occurred, which terminated in resolution without suppuration.

Pain: No pain followed the intravenous injection except in the three cases of Phlebitis. This was caused by a slight infiltration of Salvarsan solution into the tissues around the vein, attributed to an accidental movement of the needle. No suppuration followed any of these accidents.

In the cases given intravenously we found the least inconvenience, and therefore, it would seem to be the method of choice.

In intramuscular injections, the pains complained of were variable. The pains were not only referred to the muscles of the buttock, but extended down the thigh and leg.

In one case in which the injection was given into the muscles in the lumbar region, pains were severe and continuous for ten days, and soreness, accompanied with redness and slight induration of the tissues followed. In two cases in which the solution was made up to 40 c. c., no pain followed the injection. One of these cases was a reinjection in the man in whom the lumbar injection was previously used.

Nausea and Vomiting: Out of 36 (includes 2 reinjections) intravenous injections, vomiting followed in 18 cases, and nausea without vomiting in 9 cases. No stomach symptoms occurred in the other 9 cases. These symptoms occurred one to three hours after administration. No vomiting occurred in the cases in which the hypodermic intramuscular method was employed.

Vomiting usually followed a chill and did not continue more than three hours.

Chills: Following the administration of Salvarsan, chills were noted in 15 cases, which were of short duration.

Eruptions: In one case, No. 18, urticaria developed on the seventh day, but disappeared after free purging.

The real Jarisch-Herxheimer reaction was not observed in any case.

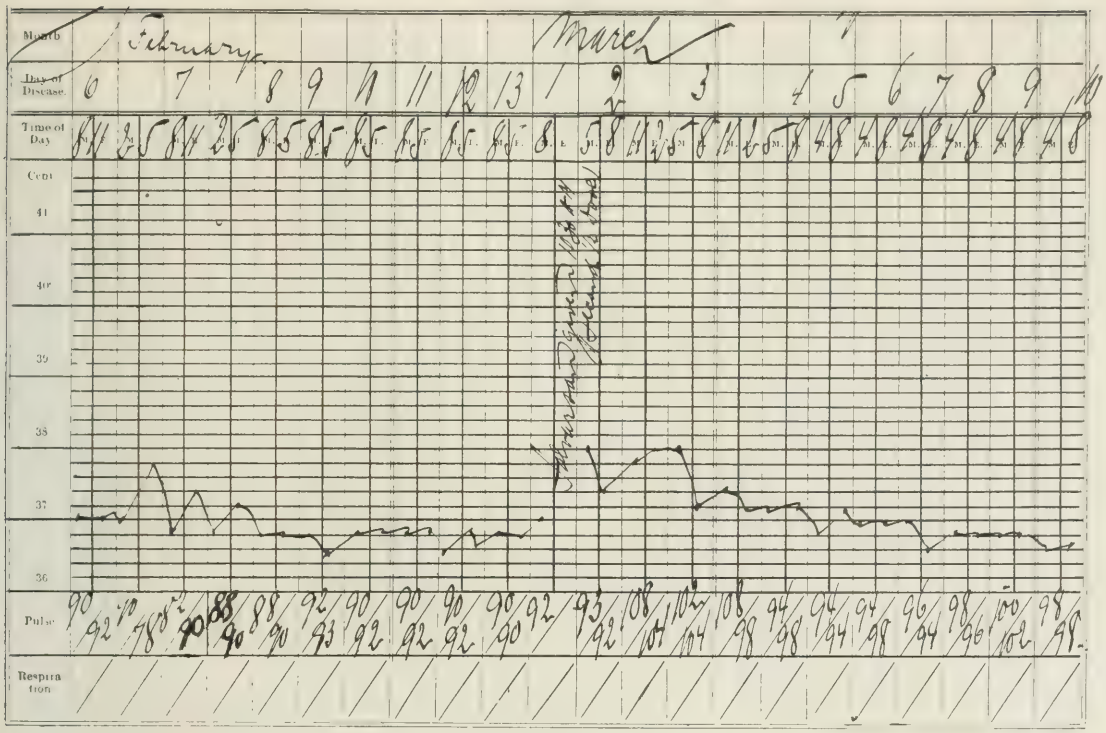
Deaths: One death, case No. 19, occurred on March 27th, which was twenty-four days after the intramuscular injection. It is only proper to state that the administration of Salvarsan in this case was given as a last resort as the patient was in extremis when treated. However, some improvement was noted during the first week. The death in this case could not possibly have been attributed to the use of Salvarsan.

We herewith submit a table giving the history of each case briefly, together with the results obtained after the use of Salvarsan. It will be seen that of the 40 cases treated there were

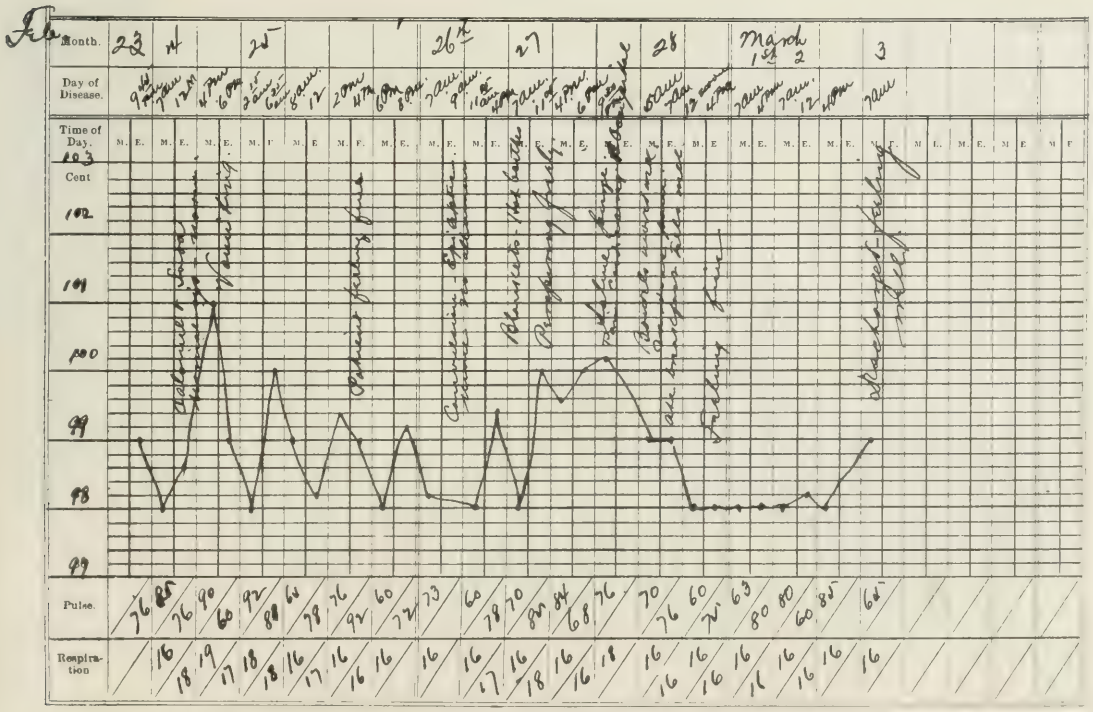
1 ..... Primary
20 ..... Secondary
19 ..... Tertiary

Of these, cases Nos. 3, 4, 8, 19, 22, 26, 27 and 32 had organic lesions involving the following organs: Brain, 5 cases; testicle, 1 case; rectum, 1 case; spinal cord, 1 case.

Of the secondary lesions, the following is a summary: Eruption of the skin, macular, papular, pustular, and ulcers; condylomata involving nates, vulva, throat; mucous patches of the mouth; ulcers of the angle of the mouth, nose, tonsils, alopecia, dactylitis, general adenopathy. Of tertiary lesions, in addition to the organic ones mentioned, gumma, inner canthus of the eye, tibiae, posterior



CASE NO. 4.



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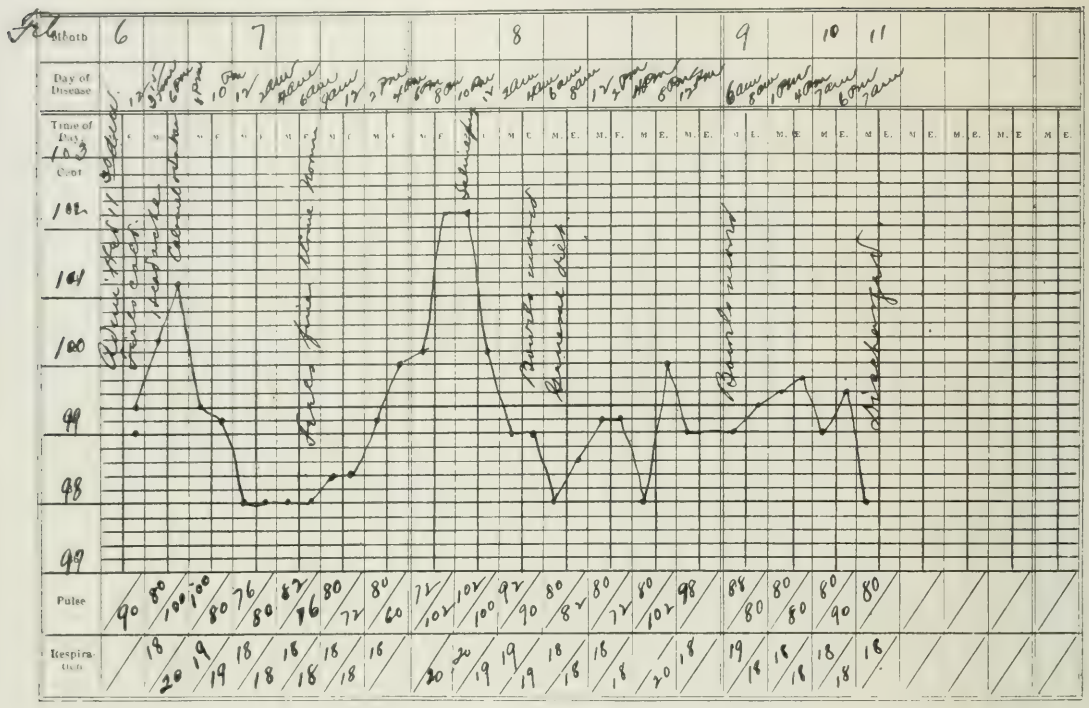

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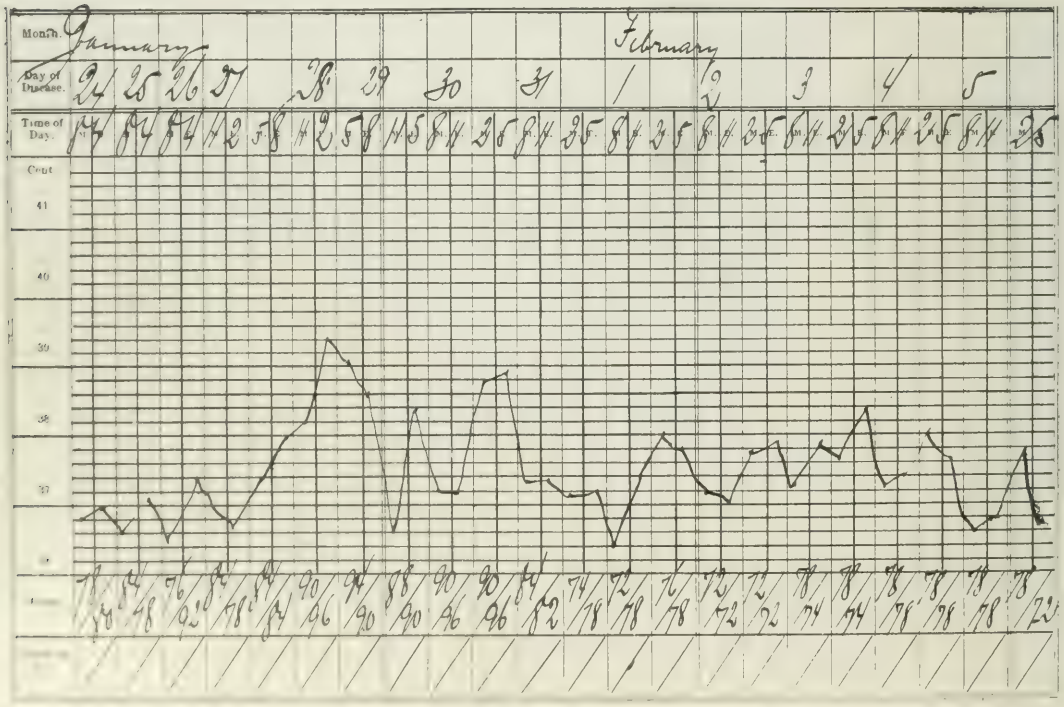

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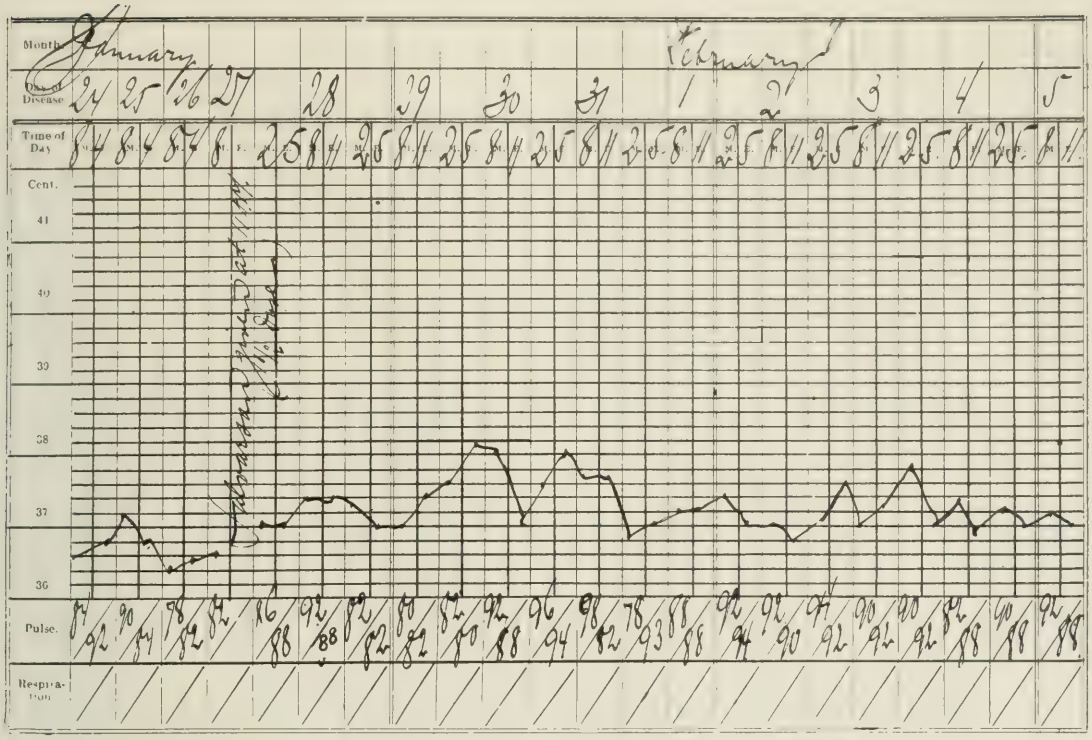

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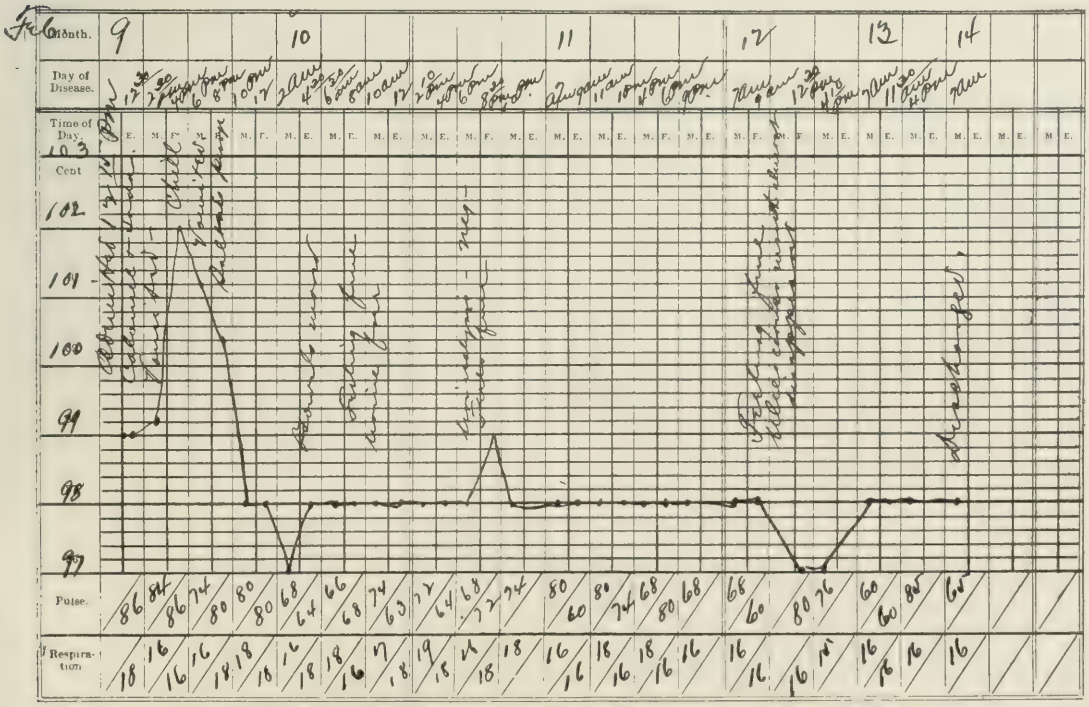


CASE NO. 12.

pharnyx, a perforating gumma of the palate, rheumatism, extensive ulcerating gumma of the glans penis.

As will be seen 80 days have elapsed from January 25th, 1911, on which date we first began the use of this drug, to April 15, 1911, inclusive.

The results may be summarized as follows:

Cases in which all symptoms complained of have disappeared so that they are apparently well—total 25.

Case number.	No. days between date 606 and date last examination
3	76
5	7
6	12
8	69
9	14
10	14
12	14
13	4
14	42
15	25
16	47
17	10
20	26
21	6
23	8
24	26
26	7
27	7
28	23
29	7
30	10
32	6
33	8

Cases No. 1, 53 days and No. 11, 44 days may be included in this list, but owing to a continued Wasserman will require another treatment.

No. 11 was given a reinjection on Monday, April 17, 1911.

Cases which improved but some symptoms still present—4.

No. 18—45 days—Wasserman developed iritis and cervical glands still palpable (reinjected April 16).

No. 25—26 days—Nodes still present. Ulcer healing—Wasserman negative.

No. 31—7 days—Gumma of head still present, but decreasing.

No. 7—73 days. Wasserman—Gumma inner canthus eye, decreased but still present.

No. 4—78 days—In this case lesion involves central nervous system—upper cord region. Improving. Wasserman negative.

Cases whose condition improved but in which complications exist—2.

No. 2—79 days—Has malignant growth. Wasserman negative.

No. 22—31 days—Has hemiplegia; apoplectic.

One death occurred in case number 19, which was 24 days after intramusclar injection.

There remain the following cases:

Case 34, treated April 11, pains complained of entirely disappeared.

Case 35, treated April 12, headaches and melancholia, relieved.

Case 36, treated April 12, macular eruption disappeared. Lymph glands markedly reduced. No more pains.

Case 37, treated April 13, headaches have disappeared. Goiter decreased. Feels greatly improved.

Case 38, treated April 13. Vision in left eye good. Iritis in right eye shows no improvement. Eruption disappeared.

The following cases were treated since April 15:

Case 39, treated April 16. Pains in knees and shoulder disappeared. No reaction followed the injection. Nose condition improving.

Case No. 40, treated April 17. This case seen on April 24, showed remarkable improvement. The squamous syphilide involving the back and palm of the hand was entirely healed leaving but a pink spot, also the fissures between the fingures were entirely healed. This condition had lasted since August 1910, so that during that time he was unable to use his hand very much. He is now able to flex his fingers and use the hand freely for any kind of work.

WASSERMAN REACTION AND SPIROCHAETE PALLIDA FINDINGS.

Of the 40 cases, Wasserman reactions were made in 29 cases, before the administration of Salvarsan, and in 11 cases after treatment.

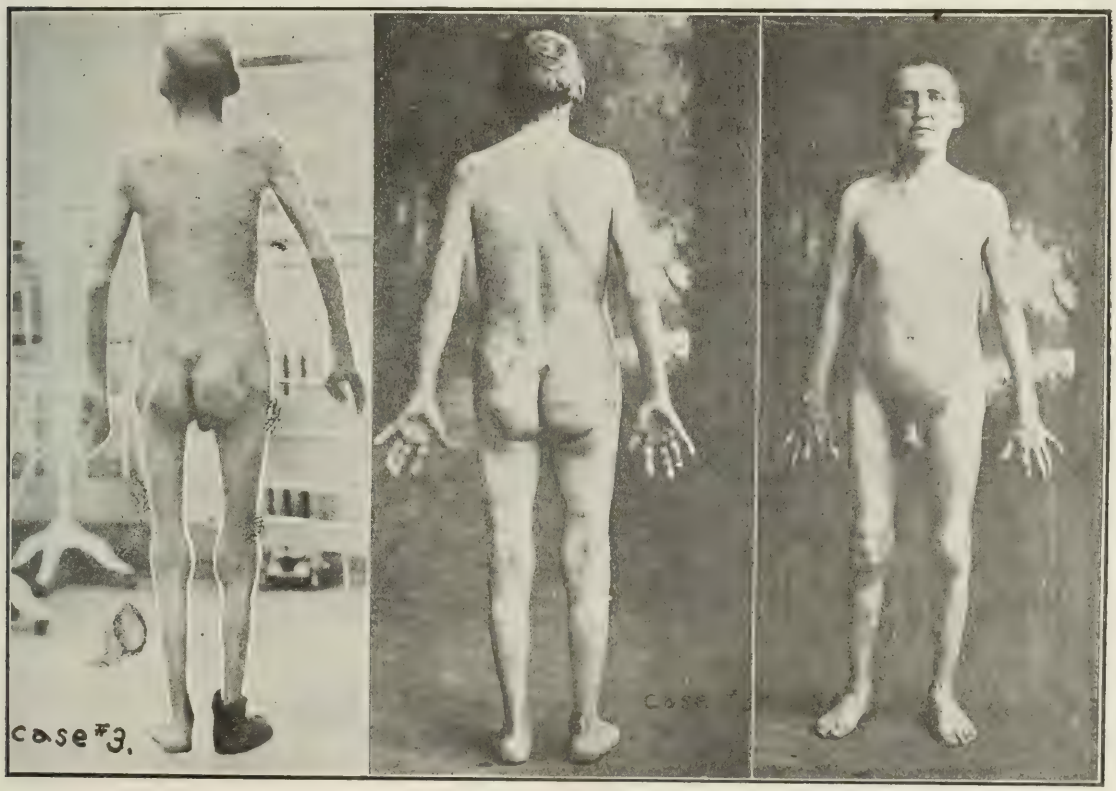
The following results were obtained in the eleven cases:

	Before	After	Days
No. 1	+	‡	53
No. 2	‡	—	75
No. 3	+	+	32
	+	—	61
No. 4	‡	—	32
No. 7	++	‡	46
		‡	69
No. 8	+	—	46
No. 11	++	+	42
No. 18	+++	+	41
No. 22	+	—	27
No. 24	++++	—	26
No. 25	‡	—	22

tive cases examined after the administration of salvarsan, the spirochaete findings proved negative in one after 24 hours; one after 48 hours, and one on the third day.

The original Wasserman was used in the above examinations. Spirochaete examinations were made by the India ink method and also by use of Wright's stain.

Remarkable beneficial effects were apparent after the first 24 hours presenting lesions involving the mucous membrane and skin. Pains, enlarged lymphatics, and many other



Case No. 3.—Rear View. Picture Taken February 10, 1911. Weight, 92½ Lbs.

Case No. 3.—Rear View. Photo Taken April 15, 1911. Weight, 148 Lbs.

Case No. 3.—Front View. April 15, 1911.

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This makes 7 cases of the 11 giving negative reactions after treatment.

The Spirochaetae (pallida) examinations were made in 12 cases, 8 of which gave positive and 4 negative findings. In 3 of the positive symptoms, such as insomnia, headache, anorexia, mental apathy, difficulty in swallowing, etc., were alleviated and in many instances disappeared. As a rule, patients increased in weight,one gaining as much as ten pounds during the first week after administration.

No.	Date 606 Given	Date Primary lesion	Kind of Treatment received	General Physical condition on date 606 given	Syphilitic Symptoms complained of	Changes noted at end of 1st week	End of 2nd week	End of 1st month	Date of last examination
1	Jan. 25	June 27, 1910.	Mercury by Hypodermics	Good. Weight 131 lbs Wasserman † Spiroch pall. †	Ulcer penis, general adenopathy. Submax. glands visibly enlarged.	Ulcer healed. Glands barely palpable.		Greatly improved.	Mch. 19. Glands no palpable. Wass- ‡.
2	Jan. 26 and March 3.	1875	Hg and KI. short periods irregular	Good except for ulcer diag. Cancer. Wasserman ‡.	Ulcers over both cheeks of face. Ulcerating growth below left ear involving side of neck—appearance malignant.	Ulcers cheek smaller. All soreness and pain in ulcer of neck has disappeared.	Skin around ulcer neck showing tendency to grow over edge of growth. Tumor appearances till present	Mch. 3. Repeated Salvarsan 0.18 1-8. Ulcer neck improved but malignant growth apparently present.	Apr. 15. '11. 79 days White ulcerous condition, neck smaller and apparently improved. malignant growth. (Epithelioma) apparently slowly advancing. Wasserman—April 11.
3	Jan. 27.	Sept. 1909.	Mercury, Sodium, Cocodylate.	Emaciated and markedly cachectic. Bedridden—Wght. 85¼ lbs. Jan. 25, 1911. Wasserman †.	Mentally weak. Dactylitis fingers, both hands Eruption on face—Has convulsions—involuntary stools and urine.	Face clearing. Dactylitis markedly improved. pain in fingers has disappeared, no more involuntary stools.	Gained 10¼ lbs. Feb. 10. Greatly improved in strength. Sits up.	Feb. 27. Is walking about Gained 26¾. Repeat'd Salvarsan 0.30 on Feb. 28, '11.	
	Feb. 28.			Wasserman †.	Is walking about. Wght. 112 lbs.			Mch. 29. Discharged. Dactilitis disappeared except for some thickening over joints. Wgt. 130 gained 44¾ lbs. in 2 mos. Wasserman.—	April 13 '11. 76 days Wght. 143 lbs. Physical condition very good. Wasserman—Mch. 29.
4	Jan. 27.	1906	Mixed treatment few mos. each year. Sod. Cocodlate Hydragyrism develops and use mercury	Emaciated, Cachectic, Weight, Wasserman, ‡.	Pain in neck and body Paralysis right arm. with wristdrop which came on gradually. Drags right leg.	Can flex and extend fingers and hand. Can raise and move right arm. Pain and stiffness in neck continues.	Condition same.	Feb. 28. Repeated Salvarsan 0.30, intramuscularly. Condition at standstill.	April 15, 1911–78 days. Is able to walk a little. Can move right arm and hand.—Still has stiffness in neck muscles.—Gained 5 lbs.
5	Jan. 29.	1909	18 mos. mercurials	Good, weight 160	Ulcers on thighs, General adenopathy.	Improvement noted at once Feels better than in 1 yr. Began work.			7 days.
6	Jan. 31.	Nov. 1910	None.	Fairly good. Spiroch pallida † Wasserman † † † †.	Secondary eruption face and genitals. Condylomata around anal region. Alopecia.	Eruption disappeared Condylomata markedly decreased Phlebitis about resolved.	Condylomata clean-level withskin. No sign of Phlebitis. Feb 9 disch. Feb. 12. No sign of eruption.		Discharged Feb. 12, '11. 12 days. All lesions have disappeared.
7	Feb. 1.	1906	Mercurials, inunction and Hypodermic several mos. in 1908, 1909 & 1910.	Good. Wasserman † †	Extensive ulceration, head of penis gumma, inner angle left eye. Scars over body and face. General adenopathy.	Ulcer penis nearly entirely healed. Swelling right inner angle of eye much smaller.	Penile ulcer completely healed. Swelling inner cauthus eye no longer visible, but still palpable.	Mch 7. Gumma canthus eye palpable. General physical condition excellent.	April 15, '11.—73 days. Wasserman ‡. April 11 Gummatous swelling inner canthus re-appearing. Otherwise well except for recent attack gonorrhoea.
8	Feb. 2.	1902	Few mos. eacy yr chiefly mercurials.	Good. Wght. 126¼. Wasserman †.	Ulcer in rectum which returns each time treatment Hg. discontinued—Foul flatulence and poor control of sphincter.	Improvement noted after first 24 hrs. No more pains nor soreness. Ulcer healed over.	Gained 8 lbs. Has complete control of sphincter ani muse.	Mch. 8. Gained 13 lbs. Feels perfectly well. Wasserman–Mch 20.	April 12, 1911.—69 dys Fee's absolutely well.
9	Feb. 4.	1903	Mercurials about 1 yr. In 1904—3 mos.	Good. Weight 150½ lbs. Wasserman † †	Headaches.–Rheumatic pains. No visible lesions.	No more headaches. No rheumatic pains, gained 4 lbs.	Gained 9 lbs. No symtoms		14 days.
10	Feb. 5.	Nov. 1900	Under treatment 11 yrs, Hg. and KI.	Fairly good. Weight 120 lbs. Spiroch pall. †. Wasserman † †	Ulcers in throat, mucous patches mouth and tongue Postpharnyngeal gumma ulcerating, Lymphatic glands enlarged.	General improvement noted beginning 2nd. day. Ulcers mouth healed.	Continues in general improvement. Gained 8 lbs.		14 days.

No.	Dgte 606 Admin.	Date Primary lesion	Kind of Treatment received	General Physical condition on date 606 given	Syphilitic Symptoms complained of	Changes noted at end of 1st week	End of 2nd week	End of 1st month	Date of last examination
11	Feb. 6.	about 1901	Protoiodides of mercury 3 mos.	Fairly good Weight 117 lbs. Wasserman † †.	Gummatous ulcer, which has caused perforation of hard palate interfering with speech. ulceration still active.	Ulcer healing rapidly. speech improved.	Gained 4 lbs., Mch. 20.		Mch. 20, '11. 42 days speech markedly improved, perforation apparently decreased in size. Lost 4 lbs. on account of attack of influenza. Wass. †.
	Reinjection April 17.				Wasserman † Mch 20	Mch 20. No symptoms.			
12	Feb. 9.	1898	Irregular with mer curials.	Fairly good Weight 108¼. S pallida † Wasserman † † †	Ulcer and wart angle of mouth, mucuous patches throat and mouth ulcer larger on inner surface of left side of nose.	Noted improvement. Ulcer and wart mouth have disappeared. Ulcer nose nearly well. Feels better than in 10 years.	Gained 5 lbs.		April 25, 1911 14 days. Wasserman negative.
13	Feb. 18.	Jan. 1911	None.	Good.	Primary chancere.	Healed in 4 days.	Observations made by Dr. H. T. Inge.		4 days.
14	Feb. 20	Dec. 1911.	None.	Good. Wasserman † † † †	Eruption all over body - papular. Ulcer penis, mucous patches in mouth. Pains in legs. Headache	Eruption disappeared, improvement noted beginning 2nd day. Chancre healed	Gained 8 lbs. feeling fine, no visible lesions.	March 9, 1911 7 days. General condition excellent.	April 13, 1911. – 42 days Absolutely no symptoms, gained 15 lbs.
15	Feb. 23	May, 1910.	Hg.	Fair. Weight 116 lbs. Spir. pallida. †.	Mucous patch and ulcer left posterior pillar extending over tonsil. No improvement under mercurial treatment.	Healing over rapidly.			Mch. 20, '11. 25 days. no sign of throat ulcer. Lesions entirely healed. gained 5. lbs.
16	Feb. 26.		Hg and	Good.	Ulcers on arms and legs which resist Hg. treatment. Weakness in muscles left arm & hand so that arm was useless. Ulcers on legs, 2 yrs, standing.	Has some use of left arm and can now hold an object in hand. Soreness in ulcers has disappeared.			April 14, 1911. 47 days Wght. 142½ lbs. Lesion right leg entirely healed--ulcer was ½ in. deep before treatment. Now uses left arm and hand freely so that it seems as good as ever. Ulcer left leg entirely healed. Apr 1st Feels perfectly well.
17	March 1.	Summer 1910	None	Good. Weight 136½. S. Pallida †.	Condylomata right buttock anal region. Cannot walk on account friction pain.	Condylomatous masses began drying up on 2d day and continued to decrease rapidly, so that they were nearly smooth with skin at end of week. S. pallida neg. 3rd. day.			Mch. 11. '11. 10 days. Condylomatous masses practically disappeared, leaving slight roughness. Stained looking area on skin.
18	March 1	Nov. 1910	Hypo Hg I 2.	Fairly good. Weigh t 146¼. Wasserman † † †.	Sore throat cervical and submaxillary lymph glands greatly enlarged size of pigeon egg–visible,	Glands markedly decreased in size–more than half. Has urticaria.	Lymph glands still palpable hard.		April 15, '11. 45 days. Glands cervical, still palpable. Has developed iritis last few days. Wasserman Ap. 11 †.
	Reinjection Apr 16				Iritis and lymph gland Cervical enlarged.				
19	March 3.	?	Mercury, Hypo.	Cachetic, bed-ridden. Small bed sore over sacrum.	Mental condition unbalanced. Has involuntary stools and urine. T.102 F, P. 130, Resp. 36. Unable to swallow.	Calls for bed-pan. Eats. Mental condition slightly improved.			Died March 27, 1911. 24 days.

No.	Dgte 606 Admin.	Date Primary lesion	Kind of Treatment received	General Physical condition on date 606 given	Syphilitic Symptoms complained of	Changes noted at End 1st week	End of 2nd week	End of 1st month	Date of last examination
20	March 6.	Feb. 1910	Hg. Salicylate 3 mos.	Good. Wasserman † † † † Aug. 1910. Resists Hg. treatment. S. pallida —	Ulcers and papular eruption on penis. Pustular eruption on face, neck and back.	Improvement began 3rd day. Eruption disappeared. Ulcers on penis drying up.	Gained 4 lbs.		April 1st, 1911. 26 dys All lesions disappeared
21	March 14.	Jan. 1911	None	Good	Secondary eruption over body and limbs.	Eruption began fading rapidly beginning 2nd day. Disappeared.			March 20, 1911. 6 days. Eruption entirely disappeared.
22	March 15.		Hg. Mixtreat. Sod Cacodylate.	Fair—Paralysed. Wasserman †	Has paralysis involving right side face, and has limited use of left arm and leg. Hyperseritive on left side.	Is up. Condition about the same. No improvement noted.			April 15, '11. 31 days. Has hemiphlegia-apoplectic of at least 1 yr's duration. Wasserman —, April 11, 1911.
23	March 17	Nov. 1910.	Mix. treatment	Good. Weight 124. Wasserman † † † † S. pallida †	Mucous patches in mouth and end of tongue. Gums swollen and sensitive.— Mental condition slow.	Healing of mucous patches began 2nd day Healed at end of week. Can eat solid food gained 4 lbs. S. pallida negative in 24 hours.			March 25, 1911. 8 days. Gained 6 lbs. All visible lesions disappeared. Mental condition markedly improved.
24	March 18.	?	?	Anemic thin Wasserman † † † † S. Pallida †	Ulcer angle of mouth, ulcers both tonsils. Pustular eruption face and body. Condylomata of vulva & anal region. Marked pain over tibiæ. Ulcer of leg 10 yrs. standing.	Fading of eruption began 2nd day. also changes in other lesions. Ulcers on tonsils healed, condylomata dried up and markedly reduced in size No more itching, no more pains over tibiæ. Ulcer leg healing. S. pallida neg. 48 hrs.			April 3, 1911. 16 days. Condylomata have disappeared. Pustular eruption has disappeared except for one small red spot side of neck Ulcer of leg shows discharge of pus. Induration and oedema left leg disappearing. April 13,1911. 26 days Gained 9 lbs., no visible lesions ulcer leg healed. Feels stronger. Wasserman — Apr. 13
25	March 20	August 1909	Hg. I 2 by Hypodermic.	Good. Wasserman ‡	Large painful gummatous nodes over both tibiae. Also ulcerating soft gumma right leg developed in spite of Hg. treatment	Absolutely no more pain and tenderness over tibiæ. Swelling slightly reduced—hard ulcer healing.	Apr. 4. Swelling over tibiæ considerably decreased. Small Ulcer still discharging. Tissue softer around ulcer.		April 15, 1911. 26 days Absolutely no soreness over tibiæ. Nodes still present, ulcer healing, Wasserman— Apr 11, 1911. Gained 7 lbs.
26	March 22	1899	1–2 mos. each yr. Hg.	Good. Weight 156. Wasserman † † †	Headaches. Hesitancy of speech, difficulty in concentrating mind on any subject, memory poor. Sweating in palms of hands developed past 2 months	Mind clearer, no more headaches, feels stronger, appetite improved, no more indigestion, no hesitancy in speech. No palmar sweating.			7 days.
27	March 22	? Vaccination1899	Hg. & K. I.	Good. Weight 151 lbs. Wasserman † † S. pallida —.	Mucous patches over tongue and mouth–numerous. appear after discontuning Hg. or K.I. treatment. Gumma of right testicle.	Improvement noted 24 hrs. after infusion. Mucous patches disappearing, Gumma of testicle no longer palpable on third day			**7 days.**
28	March 23	Denies exposure.	Unknown	Good. Wasserman † † S. pallida —.	Ulceration of tonsils and candylomatous appearing. growth on anterior pillars fringing edge of ulcer.	Ulcers throat healed and wart like growths markedly reduced in size, no more sore throat gained $3\frac{1}{2}$ lbs.			Apr. 15, 1911. 23 days. All throat lesions entirely disappeared.

No.	Dgte 606 Admin.	Date Primary lesion	Kind of Treatment received	General Physical condition on date 606 given	Syphilitic Symptoms complained of	Changes noted at of 1st week	End of 2nd week	End of 1st month r	Date of last examination
29	March 31	1893	Mixed treatment and protoid 3 mos.	Good Wasserman † †	Enlarged submaxillary glands. Headaches. Squamous syphilide left side of neck, 1 inch in daimeter.	Squamous syphilide rapidly disappearing. Submax. glands decreased.			7 days.
30	April 3	Jan. 1911	None except local to chancre.	Good. Wght. 160. S. pallida †. Wasserman † † † †	Primary sore about healed over leaving a large lump. Ulcer in right side of throat and sore throat.	Original indurated sores, smooth with skin, only a small pink spot left. No throat symp., ulcer perfectly healed.			April 13, 1911.—10 days No symptoms or visible signs of lesions.
31	April 6	Jan. 1910	At Hot Springs under Hg.	Good. Weight 140. Wasserman † †.	Periosteal gumma, head sore spotnear crown. General adenopathy. Slight eruption over back. One papule over left temple. Rheumatism left shoulder. Epitrochlear gland left arm swollen and sore.	All eruptions disappeared. No pains in shoulder, all glands decreased in size, gumma decreasing and no soreness.			7 days.
32	April 7	1904	Hg. & M.T.	Good. Wght.229. Wasserman †.	Insomnia. Violent headaches, mental disturbances has difficulty in adding simple figures.	Sleeps well, mental condition improved, no headaches, feels like a different man. (Apr. 13.)			6 days.
33	April 7		Hg. & K.I.	Fair. Weight 128. Wasserman —.	Iritis, syphilitic, rheumatic pains.	April 12. Inflammation both eyes disappeared. No pains complained of			5 days.
34	April 11.	1905	Hg. & K.I.	Has Pulmonary tuberculosis. Weight 148-¼. Wasserman †.	Violent headaches, pains on anterior surface tibiae. Rheumatism.	No pains.			April 25, 1911. 14 days. No pains, condition excellent, cough decreasing.
35	April 12.	1908	Hg. & K.I.	Fair. Wasserman † †. Weight 117 lbs.	Melancholia. Severe frontal and occipital headaches.	April 15, 1911. Feels completely relieved and better than in 5 mos.			April 26, 1911. 14 days. Absolutely no pains. No melancholia. Feels better than in 5 yrs.
36	April 12	1910	None	Good. Wasserman † † †.	Muscular eruption arms and body, Lymph glands all enlarged.	Macular eruption disappeared 2nd day,lymph gland decreasing, no more pains in neck.			April 29, 1911. Discharged 7 days.
37	April 13.	1905 on finger	Hg. & K.I.	Fair Mitral insufficiency. Goitre right side. Wasserman † in 1910. Wght. 115.	Pains right side of head to occipital region.	Goitre decreased. No more head pains.			April 25, 1911. 12 days. Goitre ½ of former size. No more pains.
38	April 13.	Jan. 1911.	K.I.&Hg.	Fair. Wght. 97½. Wasserman † † †.	Secondary eruption face, back and chest.-Papular Iritis both eyes almost blind.	Eruptionhas disappeared Vision good left eye. right eye unimproved			April 26, 1911. 13 days. Condition right eye about same except that inflammation disappeared. Left eye about normal.
39	April 16	25 years ago.	Hg. & K.I.	Weight 162½.Good Wasserman † ††.	Rheumatic pains, knee and right shoulder. Post-nasal catarrh and ulcerations, perforated palate.	Pains relieved, nasal condition markedly improved. April 19, 1911			3 days.
40	April 17	20 yrs. ago.	Hg.	Weight 125. Good. Wasserman † † †.	Squamous syphilides right hand involving back of hand and palm, and fissures between thumb and 1st finger and fissure between little finger and ring. Eruption left elbow.	No eruption. Syphilide entirely disappeared leaving only a pink spot. Fissures between fingers healed. Can now use hand first time in 9 mos.			7 days on Apr. 23, 1911

The lesions which proved most resistant to salvarsan have been in cases with general adenopathy, periosteal gumma, and hemiplegia. Spinal (involvement) myelitis.

The following is a brief summary of the

Case No. 17.—Showing Condylomata. These Condylomata Disappeared Fourteen Days After Administration of "606."

time noted for the complete disappearance of different forms of lesions:

Primary lesions	4 days
Mucuous patches	1 to 5 days
Macular eruptions	2 to 4 days
Papular eruptions	7 days
Pustular eruptions	7 to 14 days
Ulcers of the skin and penis	1 to 4 weeks
Ulcers of the nose and mouth	2 to 5 days
Ulcers of the throat	2 to 5 days
Ulcer of the rectum	5 days
Condylomata	7 to 14 days
Adenopathy (in some)	4 weeks
Dactylitis (inflammatory)	2 months

CONCLUSIONS.

First: That salvarsan is unquestionably a specific for syphilis, and the most valuable adjunct to our armamentarium in the treatment of syphilis, and should be employed whenever indicated.

Second: That its preparation and administration should be guarded by the most careful aseptic technique.

Third: That it should never be given outside a hospital or sanitarium.

Case No. 21. Showing Eruption on Abdomen and Thighs.

Fourth: That the drug should be freshly prepared immediately before administration. The salvarsan for intravenous infusion must be perfectly clear. Normal salt solution should always be given immediately before and after the salvarsan solution in intravenous injections.

Fifth: That a preliminary examination should always be made including, heart, lungs, eyes (by a competent oculist), urine analysis, weight, and, when practicable, Wasserman reaction and spirochaete examination.

Sixth: That a positive Wasserman reaction is an unquestionable indication of the activity of the spirochaete pallida. With this in mind it does not seem possible that an in-

dividual will not evince some manifestation within a year, and under these circumstances, knowing the beneficial effects of this remedy, we would advise, all conditions being favorable, that this treatment be used.

*Seventh*s We do not advise the use of salvarsan in suspicious primary lesions, unless a positive Wasserman is found or the spirochaete pallida is demonstrated microscopically. Of course, where the clincal course of the disease is clear after the primary lesions, the administration of this remedy need not be delayed.

Eighth: It should be given in all cases where eye lesions do not involve the fundus oculi where a danger of optic atrophy may advance and be attributed to the use of this drug.

Ninth: That active lesions such as primary sores, mucous patches, condylomata, etc., are rendered non-infective by this treatment quicker than by any other form of treatment. This makes the drug a most valuable prophylactic agent in controlling the spread of syphilis.

Tenth: That further observations will be necessary to determine the permanency of the effects of this treatment.

We have to acknowledge our appreciation and extend our thanks to the following members of the profession for referring cases to us:

Doctors Rhett Goode, Seale Harris, W. G. Ward, O. L. Crampton, R. A. Wright, A. E. Maumenee, H. P. Cole, J. T. England, G. E. Gavin, L. W. Roe, W. C. Jones, S. Toulmin Gaines and J. J. Peterson, all of Mobile, and Dr. C. M. Hartzog of Seminary, Mississippi; Dr. Brown, surgeon U. S. Army, Fort Morgan, Alabama, and Dr. Tom Savage of Jefferson, Alabama.

To. Dr. H. T. Inge, for supplying the his-

CASE NO. 21. SHOWING ERUPTION ON BACK, BUTTOCKS AND THIGHS.

tory of case No. 13, to whom we administered salvarsan at Dr. Inges' special request. To Dr. Eugene Thames, resident physician City Hospital, who took a special care and interest in the cases sent to the City Hospital. To Drs. R. A. Wright, E. A. Maumenee, W. C. Jones and J. C. O'Gwynn, for the interest taken in making the eye examinations of our cases. To Dr. Haley, Bacteriologist, Medical Department of the University of Alabama, who determined the presence of arsenic in the urine of one case. We have also to acknowledge our appreciation for the assistance rendered by Pharmacist F. J. Herty, U. S. P. H., & M. H. S., who made several examinations and analysis of urine to determine the presence of arsenic; also for making careful determinations of the weight of salvarsan and for the typewriting of part of this paper.

END-RESULTS OF SURGICAL OPERATIONS ON NERVOUS WOMEN.*

By S. T. RUCKER, M.D.,
Memphis, Tenn.

Medical and surgical procedures sometimes become a fad, their importance is over-estimated, and the pendulum of appropriation swings too far. When this occurs the wise and conservative ones will retrench, the evidence will be analyzed and estimated, and if the proceedure possesses virtue, it will find its rightful place as a therapeutic endeavor.

The ovary, appendix and retro-displaced uterus have each had their conflict with surgery. Lives have been saved, ovaries and appendices have been lost.

The retro-displaced uterus has been court-martialed and punished by suspension, or shortening the round ligament, only to drop back into the same naughty ways. Now that peace is about to be restored where former conflicts raged, the movable kidney is raising a disturbance, and has thrown down the gauntlet.

Many nervous phenomena that will not permit of a definite interpretation will be attributed to the movable kidney, and nephropexy will be done.

After studying carefully the results of operations on nervous women, I am persuaded that even where a pathological lesion exists, the end-results, in a majority of cases, are unsatisfactory for two reasons: First, as a rule the lesion is incidental to, and not the cause of the nervous symptoms. Second, there is already a psychic instability and depreciated nerve force, which renders the patient a poor subject for an operation. I find a better plan is to endeavor to improve the general health and restore nervous strength to the patient by isolation, rest and other appropriate treatment, when the needed operation can be done with better results.

In selected cases, where the symptoms are urgent and an operation is undertaken, care should be taken to protect the nervous system from physical and psychical shock, and avoid increasing the nervous disorder.

I get patients who have had abdominal operations done with the hope or promise that it will relieve some vague abdominal pain or obscure nervous suffering. Instead of relief, they get an undesirable ventral scar, and perhaps peritoneal adhesions in addition to the nervous affection.

A female patient 25 years old, sent to me from Arkansas, had petit mal of five years' duration. Her physical condition was good, but there was poor memory, mental apathy and epileptic vertigo spells that came on at frequent intervals. Two years previous to my seeing her she was told that her nervous trou-

*Read before the Section on Medicine of the Southern Medical Association, Nashville, Tenn., November 8-10, 1910.

ble was reflex and due to a diseased appendix. Appendectomy was done, the spells were less frequent while she was in the hospital, but were more frequent and severe soon after returning home.

A borderland case of Neurasthenia from Alabama. The patient had his appendix removed and gall-bladder opened; no gall-stones were found. His nervous symptoms continued; he also had two ventral scars to remind him of his failure to get well.

A young female patient 20 years old from Mississippi. Her physicial condition was good, had been healthy from childhood and menstrual period had been regular and easy. Overwork at school brought on a severe attack of hysteria, with pains in the occiput and right groin. The appendix was the suspected offender. It was removed and a ventro-suspension of uterus done. For about a month after the operation she felt better, then her nervous sufferings returned with renewed intensity, and the menstrual period thereafter was painful and difficult.

A girl, 16 years old, from Mississippi, suffering from hystero-epilepsy. The appendix, one ovary and part of the other ovary had been removed. The symptoms continued, and morphine had to be given for pain during the menstrual period.

A patient from Tennessee, whose physical health had always been good, but for a year previous she had suffered from pains in back, left breast and lower abdomen. Appendectomy was done. Five months later, when I first saw her, she was having opisthotonos convulsions, and hysterical to an extreme degree. A most pathetic case of suffering was a woman from South Carolina, with intractable neuralgia of 15 years' duration. She was pale, weak and emaciated, had no appetite, could not sleep, and complained of excruciating pains about the face and head. She was truly a battle-scarred veteran from numerous conflicts with surgery. For several years most of her time was spent in hospitals at Baltimore and Philadelphia; the appendix, both ovaries and uterus had been removed, but her sufferings continued.

Neurologists have known for some time that nervous women do not make good subjects for operation, and some of the leaders in surgery are now arriving at the same conclusion.

I will quote briefly some opinions expressed during a discussion of a paper on the "End-results of Surgery for Relief of Neurasthenic Conditions, Associated with Various Visceral Ptoses," at a joint meting of the American Gynecological Society and the American Surgical Association, held in Washington, D. C., May 5th, 1910.*

Dr. Edward Reynolds, Boston, said: "It is important to avoid operation in Neurasthenics unless complete relief of the local symptoms can be expected."

Dr. Maurice H. Richardson, Boston, said: "I approach the treatment of the Neurasthenic, for whatever cause, whether a definite, unmistakable pathological lesion, or a ptosis, or a slight lesion, like a displacement of the kidney, with the utmost discouragement. Before operating on these patients we should be sure in the first place, that there is a lesion; second, that it is the chief cause of the neurasthenia; third, we should see if it cannot be cured without operation; but if operation is to be done, we should see to it that it does not subject the patient to too great a danger. I believe that Neurasthenia is more of a disease than we give it credit for; that it is some central, organic or nervous condition on which operative surgery will have about as much effect as the surgical treatment of epilepsy, and Dr. Wood once said that it would do just as much good to amputate a toe as to resect the motor area of the brain for the relief of this condition."

Dr. Lewis S. McMurtry, Louisville, Ky.: "Operative procedures for all these ptoses, whether of the pelvic organs, the kidney, or

*Journal American Medical Association, May 21, 1910. Page 1715.

the alimentary tract, have been unsatisfactory."

Dr. Wm. M. Polk, New York: "When these neurasthenics come to us, we should say to them: 'First pass through the hands of a competent orthopedist; pass next through the hands of a conscientious, self-doubting neurologist, but beware of the over-confident neurologist." Then you can say, madam, or sir, as the case may be, as you have reached the end of all things, so far as medical investigation is concerned, I am now more than willing to command all the resources of the surgical art."

Dr. A. J. Ochsner, Chicago: "The relief after an operation in such cases, even though the neurasthenia was possibly caused by this condition, must be in most cases exceedingly unsatisfactory."

Dr. Howard A. Kelley, Baltimore: "I never operate on neurasthenic patients without definite local symptoms."

Dr. Wm. J. Mayo, Rochester, Minn.: "I agree with Dr. Clark that the patients we have under discussion are wrong from the beginning, and my own feeling is that but a small number of them should be treated surgically. For some years at Rochester we have made a careful examination of all the patients who presented themselves, no matter whether they had cancer of the breast, or gall-stones, or what-not, and to our surprise we find about 25 per cent of the women had retroposition of the uterus. Even in young girls who come to us, in whom pelvic examinations were made through the rectum, had retroversion of the uterus in about the same proportion of cases as those women who had reached the menopause. Again we found that 20 per cent of the patients who came to us had movable kidney, and a very large majority of them did not have any symptoms whatever. I think the neurasthenics, from a surgical standpoint, should be treated like the insane, in that we should take no cognizance whatever of their complaints, but if they have sufficient local pathology to warrant operation, we should operate on them."

In the address of the President of the Southern Surgical and Gynecological Association, at the annual meeting in Hot Springs, Va., December 14th-16th, 1909,* Dr. Stuart McGuire said: "It is my object first, to emphasize the importance of refusing to operate on a neurasthenic patient, unless the symptoms can be clearly shown to be due to organic disease. If neuroses exist, without anatomic disease, an operation will do no good, and may result in harm. If neuroses are found coincident with pathological lesions, an operation may prove of great benefit; but in relieving the physical disease, care must be taken to avoid increasing the nervous disorder. Some patients are in good nervous and physical condition and require practically nothing but the mechanical correction of a local trouble. Others are as seriously affected nervously as they are physically, and often will be more benefited by a modified form of rest cure, than by an operation. Most surgeons recognize this fact, but are often unable to carry out the principles of seclusion, rest, full feeding, bathing, massage and electricity."

The end-results from operations on patients suffering from hysteria and psychasthenia are equally unsatisfactory. In fact, hysteria is the disease most liable to deceive and mislead the surgeon, for two reasons: First, there are few diseases, which flesh is heir to, that hysteria will not simulate so closely that the elect will not sometimes have difficulty in differentiating. The abdomen, especially in the region of the appendix and ovaries, is a favorite seat for pain and suffering. And the patient will describe the suffering as being so acute and circumscribed that a mistaken diagnosis can easily be made.

Second, hysteria patients are abnormally suggestible. A surgical operation of any kind strongly impresses the subconscious psychic centers, and often their symptoms will completely subside for a short time following an

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operation, only to break out with renewed intensity later on.

CONCLUSIONS.

(1) Nervous women as a rule do not make good subjects for surgical operation.

(2) An operation should not be undertaken, unless there is a definite, unmistakable pathological lesion, and that it is the chief cause of the nervous symptoms.

(3) A correst estimate of the end-results of surgical procedures cannot be made, unless the surgeon keeps in touch with his patients for months after they return home.

(4) In clearing up diagnoses in obscure conditions, every surgeon should seek the aid of a competent internist, neurologist and pathologist.

(5) Last, but not least, to no one is the Golden Rule more applicable than to the surgeon. When a patient presents herself, she seeks relief from suffering. She is not especially anxious "to be cut, but to be cured," and the surgeon should always ask himself the question, "Iif this was I, my wife, or my daughter, would I advise an operation?"

DISCUSSION.

Dr. A. A. Herold, Shreveport, La.—"In connection with the paper that has just been read, I wish to say that I recall very distinctly a case that occurred in the New Orleans Charity Hospital of a woman, a young widow, who was admitted to the gynecological service of the hospital, but was subsequently transferred to the neurological department. She had been operated on four times: First, for a retrodisplacement of the uterus; second, for the removal of one or both ovaries; third, she had her apendix taken out, and, fourth, she had her kidney removed, and, at last, was transferred to the department for nervous diseases, as I have said, and I do not know what became of her after that." (Laughter.)

Dr. George R. Livermore, Memphis.—"I have a case along this line which I would like to report. A man came to me for diagnosis and possible operation for stone in the kidney. He had given a history of rather obscure nervous symptoms, with violent pain in the right side. His case had been diagnosed previously as apendicitis, he was operated on, and his appendix removed, but the pain was just as severe after the operation as it was before it. A diagnosis of gall stones was then made by a surgeon in Cincinnati, the patient was operated on, but no gall stones were found. The gall bladder, however, was drained, and the pain was just as severe after this operation as it was before it. When he came to me I thought from the history of the case that it was more hysterical or neurasthenic than otherwise, but still it was a case that needed careful study and investigation. A urinalysis was made and was negative. He had never passed any calculi. An X-ray examination showed no stone in the kidney, no shadow anywhere, and so I refused to operate, and advised him to consult a neurologist. He left Memphis and went to live in another city, and I do not know what finally became of him."

Dr. J. A. Crisler, Memphis.—"This paper is too wide and sweeping not to deserve a careful discussion. Dr. Rucker is a neurologist, and he has a hospital for the purpose of treating nervous women, and one of my cases a month or two ago, a nervous, hysterical, neurasthenic woman, had symptoms following an operation for a very definite pathological condition. Now, to use a commonplace expression, the last word has not been said on nervous conditions and their relation to surgery. We do not know which cases we can benefit, and we do not know the class of cases that we cannot benefit. There is a gentleman, a member of this society, one of the most prominent doctors connected with it, who was a neurasthenic; who had all the evidences of it, including genuine hysteria, and who himself had the notion that he had a bad gall bladder and a bad appendix. He came to me, and I refused to operate on him because of the reasons the doctor has stated so clearly. He went to every surgeon in Memphis, and all of them came to that conclusion. He went out of town to another surgeon, who removed his appendix, and drained his gall bladder, and since that time he has been perfectly well. So we find that he had more or less trouble with the gall bladder, and so far as I could learn he had a bad appendix. We might cite these cases one after another and prove, on the other hand, that surgery is indicated in some of them. I do not think surgeons need much admonition when it comes to neurasthenic patients. I think any surgeon who has ever operated on a neurasthenic patient upon the evidence of that patient, upon the say-so of that patient, as to whether pain was there or not, got sufficient experience to convince him finally that he had better not do it any more. I think we all dodge these neurasthenic patients. We ought to dodge them, and yet I am satisfied we are not doing the right thing in doing so always. This is a great subject, and one about which we know very little. Dr. Rucker in his infirmary for nervous cases, sees the end results of those patients that do not get well, but there is nobody here to tell us about the ninety-five per cent of the cases that may have recovered perfectly. I agree with him in part until we came to the consideration of the kidney. I have never been able to see why a kidney flopping around all over the right half of the belly should not cause enough trouble to justify its being anchored, no matter now neurasthenic the patient is, and my experience has been that more of these patients have recovered from their nervous trouble than have relapsed into a worse state. Only yesterday, when I was getting ready to leave for this meeting, a very intelligent and capable physician brought a patient to me and wanted my attention in regard to it for about twenty minutes. It was a case on which we had to decide whether to operate or not. Now, I have operated dozens of times for this physician, and had never found his diagnosis incorrect. We went

over the case carefully and found that the woman had a bad appendix and a bad gall bladder, and we got her on the operating table. At the operation nothing whatever was found wrong with the appendix. I opened the gall bladder, drained thick bile out of it, but it was not pathological. I knew there was something the matter, and in continuing our search we found the right kidney was tipping over the brim of the pelvis. I carried it up in position and anchored it properly, and I use the word properly because I have not seen a kidney anchored properly very often in my life We advocate that we ought not to operate on woman for a retroverted uterus, but when you see the uterus in some cases carried to the extreme, when it is constantly painful to the woman, when you can put your finger in the rectum and find the uterus trying to come out at the anus, dragging on the round ligaments, and congesting the ovaries, I cannot see why that woman is not entitled to have that uterus properly adjusted, the ligaments properly shortened; whether you do the Gilliam or the Barrett operation, or resort to any other method, if you get it right and take advantage of the anatomical structures, it will not come down again. We ought to be more careful in giving these patients closer study, and I do not think I am alone in the view I take of the treatment of these cases. I think any surgeon will agree with me today, that no woman, who is strictly neurasthenic, without definite pathological conditions, should be operated on merely to get a fee, or should be operated on for the purpose of removing a healthy appendix or a healthy ovary. The patient whose case I reported a moment ago was sick for two years. She had a definite pathological condition. It brought on a chain of nervous symptoms and opisthotonos of an extreme degree, and yet she got entirely well. The question arises whether she would have gotten well without an operation."

Dr. Jere L. Crook, Jackson, Tenn.—"Dr. Crisler will doubtless recall a case that he wrote me a long letter about, the patient being a young woman who had a very much longer uterus than it ought to be, and it hung down farther than it ought to go. He found some condition which justified central suspension or shortening of the round ligaments; but that woman came to me in just as nervous condition as she was before he operated on her. I spent nearly an hour's time in trying to convince her that the operation Dr. Crisler has done was absolutely essential, and that Dr. Crisler had done it nicely, and at the end of that time she did not seem to be any more convinced than she was before. I subsequently found that she was very much in love with a young man who was able to support her, and I suggested that she marry him as soon as possible. They got married, and there has not been any trouble with her uterus since."

Dr. Rucker (closing the discussion).—"I tried to make myself clear concerning the indications and contraindications for operating on nervous women. I try not to be an extremist in anything, and it is my custom to weigh carefully the evidence, both pro and con, in a given thing, before making a decision. In the conclusions drawn from my paper I stated 'that an operation should not be undertaken, unless there is a definite, unmistakable, pathological lesion present, and it is the chief cause of the nervous symptoms. This is the practice of a large majority of our leading surgeons and gynecologists.' I understood Dr. Crisler to say that he had removed a healthy appendix and drained a non-pathological gall bladder, and finally found the trouble in a movable kidney of his patient. I hold that it is unscientific, unnecessary and vicious practice to remove any healthy organ because of the possibility of it becoming diseased in the future."

SOME EXPERIENCES IN OPERATING IN INGUINAL HERNIA.*

By JOHN SMYTH, M.D.,
Surgical Department, Tulane University, Visiting Surgeon, Charity Hospital and Hotel Dieu, New Orleans, La.

The object of this paper is to report three cases of indirect Inguinal Herina, presenting pecularities of the sac, with some complications rendering operation more difficult or tedious.

CASE I.

H. C. M., male, white, age 20 years, occupation farmer, nativity, Louisiana.

Says he was ruptured on left side when a child and was apparently cured by truss. About October, 1900, while playing baseball at school, he noticed pain in left groin accompanied by feeling of nausea; does not remember any lump at that time. Pain recurred occasionally, especially when taking much exercise. About two years later noticed lump in left groin, which has gradually increased without much pain. Patient has worn truss ever since, though it does not now control the hernia. When the patient was seen May 2, 1906, he presented a large indirect inguinal hernia on the left side which, upon remov-

*Read before the Section on Surgery of the Southern Medical Association, Nashville, Tenn., November 10–12, 1910.

ing the truss, descended into the scrotum. The patient entered Hotel Dieu May 5th, and I operated May 7th, assisted by Dr. P. B. Salatich. Firm adhesions of the sac to surrounding tissue were encountered. In separating the main sac a finger like peritoneal pouch, about three inches long and one inch in diameter, was isolated in front of and communicating with the main sac, about one inch below the ext. ring. This sac contained omentum only, which had apparently become sufficiently adherent to the sac to prevent descent to the bowel. The main sac extended into the scrotum and contained bowel and testicle. These sacs are shown in Figure 1. Sacs were freed, excised the common neck sutured and the operation completed by the Bassini method. Uneventful recovery followed, and the patient has had no recurrence, now, after nearly four and one-half years.

CASE 2.

E. W. C., male, colored, aged 43, occupation laborer, nativity, Alabama.

At the age of eleven years, he noticed a swelling on the right side when he coughed or strained. About two years later, the swelling extended into the scrotum. He wore a truss until October 30, 1897, when he was operated upon by a surgeon in Florida. He was confined to the bed for seventy-five days, but, upon returning to work, the hernia promptly recurred. He again resorted to the truss, which he was wearing when he came to the Charity Hospital. Examination showed a large scrotal hernia, which could not be completely reduced.

Assisted by Messrs. Brown, Hayes, King, and Leidenheimer, internes at the Charity Hospital, I operated December 14, 1909. Upon cutting through the skin, the mass presenting proved to be coils of intestine, not covered by a sac, but surrounded by firm adhesions. The ext. oblique aponeurosis was then slit up and an effort made to pull the herniated mass downward, but this was prevented by dense adhesions about the internal ring, in all probability resulting from the previous operation. Upon breaking those adhesions the gut came down easily, showing a marked constriction, above which healthy parietal peritoneum could be demonstrated. Examination was then made downward, and a sac was found in the scrotum containinng intestines and the testicle behind; this sac was strongly adherent to the intestinal coils which first protruded. In breaking up the adhesions, which was difficult and tedious, a small laceration was made in the bowel; this was closed with No. 9 Silk and O Catgut. The relations of these two loops of the intestines to each other and the sac is shown in Fig. 2.

After carefully mobilizing the herniated bowel and omentum and replacing them into the abdominal cavity traction was made on the sac, in order to facilitate closure of the upper angle of the opening, left by the anterior intestinal mass. This done, the remaining sac was sutured in the usual manner and stump returned to the abdominal cavity and the operation completed by the Bassini method. Patient suffered from considerable shock, but gradually reacted and made a good recovery. When last heard from, August 26, of this year, he was in good health, and said there was no evidence of return of the rupture.

CASE 3.

A. G., mulatto, male, age 16 years. Admitted to the Charity Hospital August 30, 1910. When one year old his mother noticed a lump in left inguinal region, which became more pronounced as he grew older. He has worn a truss about seven years, since which his mother noticed that the left side of the scrotum was smaller than the right and did not contain a testicle.

Examination showed a mass in the left inguinal region, giving impulse on coughing, and above and external to the ring a small hard lump simulating an enlarged lymphatic gland, adherent and immobile.

I operated September 6th, assisted by Messrs. David, Wise and Fortier, Internes at the Charity Hospital.

A mass covered by peritoneum was found immediately beneath the skin above and ex-

ternal to the ext. ring resting upon and adherent to the aponeurosis of external oblique. A short empty peritoneal pouch was found extending downward for a little distance toward the scrotum, the cord making exit at the ext. ring turned upward and outward to join the mass above, which, upon opening the sac, proved to be a testis adherent to the sac and finger of omentum, as shown in Figure 3.

The sac was separated by blunt dissection from the ext. oblique aponeurosis and the excess excised, leaving a portion around the testis as a tunic.

The cord was found too short even after breaking up all adhesions around inner margin of internal ring, so all but the vas was excised, after which the testis could be brought down with comparative ease to its proper position in the scrotum, the hernioplasty was completed by the Ferguson Andrews method, and the patient made an uneventful recovery.

CONCLUSIONS.

(1) The sac in Case I is probably a variety of the pantaloon sac reported by Eisendrath and others.

This kind of sac may account for some of the failures to cure hernia by operation, as Eisendrath says, "No doubt many recurrences following herniotomy are due to the fact that a diverticulum or second sac has been overlooked."

(2) The condition in Case No. 2 is an artificial one, and was evidently the result of a failure to securely close the neck of sac in the previous operation, and shows the necessity of extreme caution in operating in cases which have already been subjected to operation.

(3) It will be readily seen that the condition in Case No. 3 was the result of an effort at reduction of the hernia, in which the position of the testis was lost sight of or ignored. The truss applied at that time causing sufficient traumatism to produce adhesions which imprisoned the testicle in the upward reflection of the sac, and the enterocele, or hernia proper, recurred in the lower peritoneal pouch, possibly another case of pantaloon sac.

Owing to the extreme sensitiveness of the testicle and its practical immobilization by adhesion, it might easily have been mistaken for an inflamed lymph gland associated with hernia and cryptorchidism.

DISCUSSION.

Dr. Duncan Eve, Nashville.—"I have been much entertained by the gentleman's paper, and the report of his very unique cases, and I was certainly very much imbued with the wisdom of his conclusions. There is no question in my mind but what the second case was due entirely to a misapprehension and perhaps a maladroit operation made by the first operator, or the first operation that was made occasioned the occurrence of this double sacculated form of hernia. I think the doctor was very terse in summing up his conclusions in regard to the success of all hernia operations, and that they are absolutely correct, when he suggested that it meant the occlusion, obliteration, or removal of the sac. I might mention also the transference of the cord to the new bed or canal. These are two important principles in the question of all modern operations for hernia and are the *sine qua non* to success. Without them, no hernia that is operated upon can be regarded as cured. There are cases, just exactly as the doctor reports, of supposed cures when they relapse for good and sufficient reasons. I think I heard the doctor suggest that it was not necessary to remove all of the sac, and he cited some particular operation that had been proposed to leave *in situ* a part of the sac. This I would take exception to and criticise from the very fact that I believe the operation, so far as its success is concerned, is entirely dependent upon the removal of the sac. I do not care what the operation is that you propose, whether it is a Bassini, or Macewen, or the Ferguson, or the Bank's, or any particular method, they all have for their particular object radical measures in order to effect a cure, and that is the removal of the sac, and the more carefully that is planned and executed the more radical is the operation. In speaking of anomalies, I wish to say that I have had occasion in two distinct operations for the radical cure of hernia, one of which was acquired, and the other congenital, to come in contact with the apendix, and have removed that organ at the same time that I have removed the sac. This is nothing new at all, especially the acquired form of hernia, but it is rather anomalous to say the least and very unique in a case of congenital hernia. In each of these cases we had no trouble at all in determining the presence of the appendix, and in each case was the appendix dealt with as a sac, removing it, and we made, as we uniformly do in all cases where it is applicable, the Bassini operation, and we had no trouble. Another anomalous case was this: I found a broken hemostat in the sac whose removal had been attempted by another operator. This was at the City Hospital, and the gentleman becoming abashed at what we might call a catastrophe, abandoned all of the particular technic and, I suppose, backed out as graciously as he could. This case I have previously reported, as some of you may re-

member. Suppuration followed the removal of the blade of the hemostat, but the patient made a good recovery. In one instance, I made this operation of radical cure on a man from South Carolina, and as he learned his mother was about to die and wanted to go home as soon as possible, I fixed him up in a plaster of Paris spica the next day, put him on a cot, sent him to the other side of Columbia, South Carolina, and he made an uneventful recovery."

Dr. C. W. Allen, New Orleans.—"I think Dr. Smyth's paper is of tremendous clinical interest. These abnormalities have happened with him, and and we may meet with them next. In connection with the variety of hernia and kind of sac we have to deal with, I think our classification of inguinal hernia will have to be revised. The nomenclature of the varieties as given is not at all satisfactory in the face of our clinical experience. Some very important points were brought out by the author of the paper, and I have had occasion to realize the value of such steps as we have overlooked in conditions which make, at least, that second case possible, and that is, dealing with the neck of the sac. The first important step in closing a hernia is the way of dealing with the neck of the sac. Formerly, we ligated the neck of the sac, frequently transfixed it, and that is unsafe. A case happened to me not more than six months ago of double inguinal hernia, where I had completed the operation on the side where the sac was largest, had transfixed the sac, proceeded to the other side, and was greeted with a gush of blood when I got to the sac. I made a careful examination and found that blood came in large quantities from the abdominal cavity. I knew I had not injured the deep epigastric artery on the other side, but something was wrong. We put a forceps on the side I was then operating, went back, opened up the hernia on the other side, and found the ligature had slipped. Hemorrhage was coming from a small vessel in the sac. We closed the sac and evacuated the blood in the cavity. This is the only time that accident has happened to me. The sac was well transfixed, and doubly ligated. Now, if the ligature slips there, it will slip in other operations. What the particular condition was in the case the doctor speaks of, we do not know. The ligature about the sac may have slipped in a similar way. Regarding the remnant of the sac about the cord, after we have ligated the neck and have succeeded in securing it, it is of secondary significance what to do with the remnant. It can be left or be inverted as in hydrocele.

Dr. Jere L. Crook, Jackson, Tenn.—"The general subject of hernia should prove interesting because the operation for hernia is required very often, and it is one that has a very low mortality in the hands of competent men with a favorable environment for the operation. I believe the reason we do not do these operations more frequently is due to the fact that we are perhaps negligent in urging upon patients the necessity of it. We go along and allow men who would be perfectly willing to undergo operation to wear a makeshift in the form of a truss for years, when a comparatively simple operation, with a very low mortality, would make them perfect men physically. The operation for the relief of hernia is one of the most important we can urge upon patients, and if we make it a routine measure, when we have occasion to come upon a man wearing a truss, or in examining him for life insurance, and simply say to him that he should undergo an operation for its relief, and say it as if we meant to enforce what we say, we would undoubtedly do this operation oftener than we perform it at the present time, and in doing so we would add much to the patient's comfort, and we would subtract from his mortality risk the great liability in the shape of possible strangulation occurring at some time and place where he could not receive expert surgical intervention, and causing him to lose his life. I have had a recent case in a man, thirty-nine years of age, who had a violent gushing of the intestine through the ring, producing great strangulation. He was worked on all night by a doctor who lived several miles from the patient. The man was brought to the hospital in a state of collapse, with fecal vomiting, almost dead. I operated immediately with the patient in a bad condition, and after opening the abdomen and repairing the injury, I found a dark-brownish intestine, and it was a question whether in thirty minutes I could do the operation and get the circulation reestablished, replace the intestine, and do a Bassini operation. From the fact that the tissues were very much contused and the patient was in a bad shape for recovery, I had slight suppuration in the lower angle of the wound. At the end of four months he returned with a recurrence of the hernia. I then had a most difficult task to perform, and that was to reoperate on this case where a Bassini had been done, where the tissues were transfixed a long time, and it was the hardest kind of job. In this second operation the muscular wall was thin. The conjoined tendon did not seem to have enough strength. I got a big bite on the rectus muscle and united it at its lower border with Poupart's ligament. I would recommend this measure where you have not sufficient abdominal wall support at the point of hernia. With No. 3 catgut I got a fine result in the second operation. The man has been well for six months and is doing his farm work.'

Dr. Robert Caldwell, Nashville, Tenn.—"Hernia is a very interesting and important subject, and my observation has been that many men that are surgeons, and men that are good surgeons, fail when it comes to hernia work. We seem to have gotten the idea that when we graduate from medical schools anybody can do an operation for hernia; that it is an easy operative procedure, and consequently men attempt hernia operations many times when they do not include the various tissues that they are called upon to deal with. So hernia is not easy work. I find some of the most difficult work I have to do is hernia. With reference to the sac, I think we are all pretty well agreed on the treatment of the sac nowadays, and that it is not so much with reference to removing the sac in toto, as the treatment of the exudate at the neck of the sac. I think Dr. Ochsner, of Chicago, was the first man in cases of femoral hernia to advise anything but simple treatment of the neck of the sac, and he got perfect results or almost perfect. Whatever method we use, or whatever method we do not use, we are all going to have recurrences. We will have recurrences whether we use the Bassini method, the Ferguson method, or the Macewen method, because we have to deal with different conditions just as we are called upon to close an abdominal incision; at the end of a week or ten days it falls

open, and we fail to get union. That experience may occur in a clean wound, and yet we may fail to get union. We are going to have recurrences when we do hernia operations. For my part, I do not see why we cannot get away from the Bassini method. I cannot see why it is necessary to increase the traumatism for the closure of that hernia when we consider the anatomical structures we are dealing with. I do not see why we should lift up the cord and put it on top of the muscles instead of letting it stay in its place, treating the neck of the sac properly, and then bringing it out, supporting the internal ring, and closing the internal ring, if necessary constricting that so as not to have that invite hernia subsequently; then I do not see why in routine work we should still do the Bassini operation. It seems to me the most important thing is the transplantation of the cord in our hernia work. I do the Ferguson operation altogether, and in my comparatively short experience I have had no case of recurrence, but I shall have, just as other men will have, recurrences no matter whether they do a Bassini operation or not. The less traumatism we can do ordinarily to the tissues the better, and it would be better many times if we did not try to remove the sac in toto, but close the neck of the sac firmly and obilterate the sac."

Dr. Willis C. Campbell, Memphis, Tenn.—"I know very little about the technic of this operation, but I have noticed in all cases at the Hospital for Ruptured and Crippled, New York, they apply a plaster of Paris spica after the operation which immobilizes the parts absolutely and gives opportunity for quicker healing and allows practically no dead spaces. That is their idea. They leave the plaster cast on for several weeks. I believe that is the method of Halstead of Baltimore."

Dr. Charles A. Robertson, Nashville, Tenn.—"There is one question in connection with hernia that has often been brought to my attention and has given me some degree of wonderment, why it is we are not more frequently called upon to operate for the relief of this condition. I take it, the reason for that lies in the fact that the fitting of trusses is largely in the hands of instrument dealers and druggists, perhaps largely due to the fact that many false claims are made for the permanent or curative value of the truss. A startling statement was made to me yesterday by a druggist who is in the habit of fitting trusses. He said to me that he did not believe there were three doctors in Nashville who knew how to fit a truss properly; that he had been fitting trusses for twenty years and was an expert at it. This is a sad commentary, I take it, upon our profession, that we have allowed these cases to get out of our hands and to go primarily for treatment to men of this class, and I want to suggest and urge that, in so far as it is possible, it is our duty to discourage patients, the victims of hernia, from going to men of this class for the proper application of a truss, who invariably fit them with a truss, and if it does not cure will protect them against accidents, and a truss that will forever necessitate surgical intervention. I believe that we as a profession give too little attention to the care of our patients about trusses on the part of the instrument dealers and men who are naturally, by virtue of lack of training, incompetent to fit a truss. That to me is a matter of some serious concern."

Dr. W. D. Sumpter, Nashville, Tenn.—"I regret that I was unable to hear the paper of Dr. Smyth. This subject appeals to me because it is my belief that hernia is a condition that can be operated on and relieved under local anesthesia. I am not a convert of Bodine's nor a follower of Harvey, although I am familiar with the work of both gentlemen and with their success in the use of cocain. For a little more than four years I have done hernia operations under cocain anesthesia. In that period of time I have done my allotted share of this work. I find that fat individuals are not good subjects for cocain anesthesia, but many of these cases, with proper attention to the technic, can be operated on with comparatively little pain. If the mortality from hernia was not so great under general anesthesia, I believe more men would be operated on, and when the operation can be done under local anesthesia there is much less risk or danger. I wish particularly to sanction the operation of Dr. Ferguson which Dr. Caldwell has expressed his approval of. I have not done any Bassini operations for some time, and I may not do another Bassini, but I have yet to meet in my recent cases with any demand for other than the Ferguson operation. I think many of the recurrences in cases of hernia are due to failure on part of the operator to understand the anatomy. That is unquestionably true. The man who supposes that he can go down in a hernial sac and sew that thing up like he would a simple wound in the appendix mistakes the field he has entered. The man who did his first hernia operation has never forgotten it. I can remember mine, and I suppose every surgeon in this audience can remember the first time he did a Bassini operation. The cord seems to be all over the field. The vas deferens seems to be right, but when you cut it it has become so swollen—and you know what I mean by swollen—that the operator wishes he had done something else. There is only one method, and that is, a clean-cutting technic, and not a blunt dissecting technic. If a man understands his anatomy he can dissect a hernia, but it is a difficult operation. I consider the operation for appendicitis pastime as compared with the operation for hernia, and any man who does not certainly must have that peculiar skill which I have no hope of ever gaining in the field of surgery. I believe hernia should be operated on more frequently than it is, but we cannot gainsay the fact that the truss has held lots of intestines back from the ring throughout this country. All you have to do is to come in touch with the men who fit trusses and find out how many dozen are fitted, not for a day or for a week, but in a year's time, to the multitude who are ruptured bilaterally. I believe the man who studies the anatomy of hernia carefully will use cocain or a general anesthetic, if you please, but my preference is for cocain, because I believe under cocain anesthesia these patients can be allowed to get up earlier. I have had patients write to their wives within a period of ten or fifteen minutes after local anesthesia, and they have asked me to mail a postal card or a note to their wives. There is a less disagreeable effect following cocain anesthesia. There is no vomiting. I believe we have a great problem in the consideration of hernia. We cannot, as Dr. Robertson has said, insist on operating on these patients. We can talk to a patient about the necessity of an operation and place the facts before him, and if he wants an operation he will have it done." I rise

simply to add my views in commending the Ferguson operation, and in commending the use of local anesthesia in operating for hernia, and if there are any doubting Thomases, I would urge they take advantage of the fact that the operation can be done successfully and easily under local anesthesia, and the time consumed is no longer than that in giving ether if the cocain is properly injected."

Dr. Paul Dewitt, Nashville, Tenn.—"I was not going to say anything on this subject, but since Dr. Sumpter has brought up the subject of the use of cocain as a local anesthetic in these operations, I want to say that I agree with him thoroughly. There is no doubt but what the operation for hernia can be done as completely under local as under general anesthesia. It has been my good fortune to have operated on several cases in this way, and I have yet to find a case in which the patient experienced any amount of pain during the operation. The neck of the sac can be liberated, the finger can be inserted in the internal ring all around the sac, and the ease with which the neck of the sac can be absolutely eradicated, speaks in favor of cocain anesthesia, and the operation can be as thoroughly done under local as under general anesthesia. This, in part, answers the question of Dr. Robertson with reference to the number of cases of hernia still wearing trusses. I have operated on a good many hernias in men, and in some women, who have come to me because they did not want to take a general anesthetic. They have said that rather than take a general anesthetic they would continue to wear trusses, and in this way I have been able to relieve a good many. There is no getting around the fact that while we recognize the slight mortality from ether and from chloroform anesthesia, there is a certain mortality, and that the laity have much more dread of it than we have, and yet when you put a physician on the operating table you have got one of the hardest problems you have ever had to deal with, because physicians as a class are the hardest people to put to sleep. One other point in regard to hernia operations under cocain, namely, the integrity of the nerves supplying the region is maintained. When you cut the nerve supply and the muscle that joins you cut off the natural nerve supply that controls these tissues and atrophy is more or less the result; consequently in operating with general anesthesia you pay little or no attention whatever to the nerves; you cut through the nerve-like blood supply, and the nerve does not look bigger to you than a vessel. With local anesthesia the nerves are absolutely blocked and lifted out of the way, and in this way the nerve supply to the region is maintained, and hence your recurrences are less.

Dr. Smyth (closing).—"In the first place, I would like to make clear to my only critic what I said about the sac. I have been misunderstood. I thought I made myself clear as to the closure of the neck of the sac. I said it was immaterial what you do with most of the sac or the outer part of the sac, and that if we close the internal opening of the sac in the abdominal cavity securely, the part outside has nothing whatever to do with the recurrence of the hernia. You can excise it in part, or you can invert it, as is done in the case of the hydrocele method of Bassini. I appreciate the doctor's criticism, for the reason that it has enabled me to make that point absolutely clear. As to the remainder of the sac, once you have cut here, and closed the internal opening, it makes no difference what you do with the remnant of the sac. You can sew the aponeurosis over the communication or excise it, or leave it alone. If you split it open and turn it outward, you have minimized the amount of trauma in the scrotal region and have minimized the amount of inflammatory reaction that takes place afterwards. As to the Bassini operation, Bottomley and Munro, of Boston, as well as Coley, of New York, contend that the Bassini operation is a better operation for recurrent hernia, especially large hernia, such as I had in these two cases. As to the question of cocain versus general anesthesia, I agree with the gentleman who has preceded me as to the question of cocain being advisable in a good many cases, and in selected cases it is useful. Our medical chief of the surgical department of Tulane University, Dr. Rudolph Matas, says the edema following the infiltration method of anesthesia is sometimes very marked, particularly in these large hernias, where there is a great deal of traumatism associated with the dissection and closure, and it is better to use a general anesthetic in these cases. We use spinal anesthesia, Kocher's perineural method, and the infiltration method, and in the surgical department of New Orleans we are trying these different methods in selected or suitable cases.

THE FRESH-AIR BRIGADE.

Sing a song of Sleeping-Porch, a family of
Fresh Air,
Beds are vacant in the house, people everywhere,
On the roof, and on the porch, on veranda,
too,
Blankets covered thick with snow, noses
pinched and blue.
Father's bed is on the roof, of the kitchen ell;
Mother's underneath a drift, where the snowflakes fell;
Brother takes his Sleeping-Bag down among
the trees;
Sister has a Window-Tent to concentrate the
breeze.
Though they scorn me and deride, I shall not
begin—
Some one's got to watch the house, so I'm
sleeping in.

—*Robert Seaver in Woman's Home Companion for April.*

DISEASES PRODUCED BY THE BACILLUS COLI COMMUNIS IN THE INTESTINES. ETIOLOGY, DIAGNOSIS AND TREATMENT.*

By FENTON B. TURCK,
Chicago, Ill.

The virulency of the colon bacillus is now quite generally recognized. The major part of the diseases of the intestinal tract are caused primarily by the virulency of the B. Coli.

The degree of the virulency can be determined by cultures taken from the ileum or coecum and fed to rats.

Immunity, or partial immunity, can be established by the use of vaccines.

Where the thyroid gland is deficient, the giving of thyroid substance will reduce virulency.

DIAGNOSIS.

Symptoms are variable in different patients.

Cultures are taken from the lower ileum or coecum, the area of greatest bacterial activity. One-half to one c. c. of a bouillon culture of non-virulent B. Coli can be injected into the peritoneum of a rat without any marked effect, but if the virulency is well marked, death will follow.

TREATMENT.

(1) Reduce the virulency of the B. Coli.

(2) Restore the stomach and intestines to normal condition.

(3) By hygienic living, proper diet, etc., guard against recurrence.

If retention is of long standing, and correction of dietetic errors and hygienic living, drugs, etc., do not avail, surgical means are required. This, however, only removes the effect, not the cause, and after treatment is necessary to remove the causal factors.

Lavage of the stomach with weak solution of Ag NO_3 is necessary. Heat stimulation (hot water introduced into the stomach) is very beneficial to create antibodies and restore the muscle to functional activity.

Lavage of the colon with water and air will excite peristalsis and act as a pneumatic gymnastic exercise of the muscle wall of the colon.

Albolene and liquid vaseline enemas are of great value in cases of constipation.

Some have recommended the use of B. Bulgaricus, as a force antagonistic to the B. Coli, but others maintain it has no effect when taken with a mixed diet.

The injection of vaccines is of the greatest value. Cultures should be taken, not from the feces, but from the ileum or coecum, as there the strain is most virulent. The cultures are injected into a dead fetal pig and grown in a serum pressed out from the fetal pig. In acute cases small injections are taken from three to five days apart; in chronic cases larger doses but further apart.

In many cases where the mechanical physical means and vaccine and serum treatment are all negative, the use of the thyroid substance will be beneficial.

DRUG TREATMENT.

Laxatives and purgatives are valuable for expelling the accumulated material from the bowel, but are not of permanent value. They even increase the virulency of the B. Coli. Those drugs that have the least irritating effect should be used.

Antispetics of all forms have little value, as they seem to increase the baceterial growth and interfere with digestion.

A few of the oxidizing agents, such as substances containing magnesia or iodine compounds containing free oxygen that can be liberated, will promptly excite the antibodies in the blood.

DIET.

The diet regulates the bacterial contents of the intestines. Frequent changing of the chemical nature of the diet will prevent the establishment of any one type of bacteria in the intestines.

*Abstract of an address before the Medical Association of Georgia at Rome, Ga., April 21-23, 1911.

The frequency of meals is of great importance. In many cases more time is required, because of the slow movement to clear the alimentary tract and give time for rest.

Meat increases intestinal intoxication and should not be eaten oftener than once a day.

SUGGESTIONS AS TO THE BEST WAY OF COOKING MEAT, SO AS TO RENDER IT LEAST HARMFUL.

Rice is one of the most easily digested foods, and least toxic in effect. It may be combined with extract-free meat, into an easily digested, nutritious and inviting dish.

Carrots, beets, parsnips, spinach, raw cabbage, celery, raw tomatoes, apples, are all good and may be used in various combinations.

Irish moss and agar agar, with vaseline, cooked into a jelly and flavored, will do much to reduce the virulency of the B. Coli.

HYPERAEMIA.

Lavage of the stomach and colon will not only have a beneficial local effect, but will produce changes in the chemistry of the blood. Hot baths have a like effect, to a less degree.

Exercise is an essential part of the treatment to be adopted in combating constipation.

DERMATITIS FACTITIA, WITH REPORT OF CASES.

By J. M. KING, B.S., M.D.,
Professor of Dermatology, Vanderbilt University,
Nashville, Tenn.

Dermatitis Factitia is not a very common affection but is seen frequently enough, and presents difficulties in diagnosis sufficient to warrant a discussion before this Association. In the last year or two in private practice I have met with five or six cases, white, which I shall first report, and follow with a brief discussion upon the subject.

Case No. 1 was a young woman, aged 27, from Kentucky. She was brought to Nashville by her family physician. The history of the case reveals some very interesting facts. A year or two before she was brought to Nashville her hand had been amputated just above the wrist. The occasion for this amputation was rather difficult to determine. However, it was discovered that she had suffered from such excruciating pain in the back of the hand that amputation was thought advisable. For the purpose of bringing a suit against the physicians who amputated the arm, the young lady inflicted very severe punishment upon herself. From the extremity of the stump over the forearm and arm and shoulder, as far as she could reach with the left hand, she had produced lesions of a severe dermatitis with an instrument shaped like a curling-iron. It seemed that her idea was to produce an eruption and thereby get her parents wrought up to such a state that they would bring suit for malpractice, thinking that the eruption had grown out of the amputation.

Upon examination of these lesions they were unlike any skin disease. They had every appearance of a dermatitis factitia, but no evidence could be produced at first to prove this.

The lesions were red, slightly vesiculated, with a distinct line of demarcation—in fact, they appeared to be the imprint of a hot iron, or an application of carbolic acid.

The case was carefully examined, and finally the question, "How did you do that?" was put to the young woman. Upon this she grew very angry, which was practically sufficient to warrant confronting her with the fact that she had produced it herself. She was then told that she had produced the lesions herself with a hot iron, or with carbolic

*Read before the Section on Medicine of the Southern Medical Association, at Nashville, Tenn., November 8-11, 1910.

acid. She grew furious, denying it most emphatically. It was our positive opinion that the case was one of dermatitis factitia. She and her family physician returned home, and immediately she called him up by telephone, and asked him the question if he was her friend. He told her yes. She then requested him not to tell her people that she had produced the eruption on herself. He immediately wrote me about this circumstance, which was a positive admission.

Case No. 2 was a widow who produced the eruption on the left arm near the shoulder covering the deltoid area. I was called in consultation to see this woman who had an eruption that would not heal. Her physician had treated it carefully without any favorable results whatever. Upon examining the patient I felt quite certain that she had been producing the eruption herself. I impressed her with the fact that the place would certainly get well, and insisted upon her physician putting on a fixed dressing that could not be interfered with. This led to immediate recovery.

Case No. 3 was a married woman, fifty years of age. She was in a sanitarium in Nashville under treatment for melancholia, resulting from the impression that she was responsible through neglect for a very severe illness of one of her children. This patient was confined to the room with a constant attendant, and had inflicted upon herself an eruption covering the entire anterior border of both forearms, arms, and an area on the chest as large as your hand. Upon examination of the case, the lesions were unlike those of any distinct disease of the skin. The eruption was dark red, erythematous, there were no vesicles or papules, the line of demarkation was distinct, there was no pain nor itching. It was my opinion that the case was one of dermatitis factitia. The physician in charge of the sanitarium would not believe that it was such a trouble, remarking that it was impossible for this patient to inflict upon herself such an eruption. I insisted upon the opinion. He then said he would have the room searched, which was done with no results—except nothing was found—no acids, no instrument with which she could have perpetrated the injury. The only way that I could account for the production of the inflammation in this patient was by pinching the skin, or rolling it between the fingers. Zinc oxide ointment under a fixed dressing relieved the eruption.

Case No. 4 was a man thirty-five years of age, married to a woman who seemed to care very little for him. In consultation I saw this man stretched out on an examination table, his very attitude, manner and expression manifesting a high nervous state. On his right flank he had inflicted a wound the size of the hand, of quite a severe character. It was not gangrenous, but there was a mild state of ulceration. There was a good deal of oozing, and some blood. The wound was deeper than the epidermis of the skin, and seemed to have been produced by repeated application of carbolic acid. I asked him how he did it. He denied emphatically having produced it, but I felt quite certain that the condition was self-inflicted.

When I reported this case at the Nashville Academy of Medicine, one of the members present related an interesting experience with the same patient. He received a hurry call, found this patient stretched out on the bed as if he was unconscious. The doctor could not get a word out of him. The man's wife was present and several by-standers. After repeated efforts to get some reply from the man, the doctor discovering a scar on his abdomen, thought of a way to bring him around. He asked one of the by-standers to get him a knife, that the operation on the abdomen had not been completed, and he was going to open it up, when immediately the patient sat straight up in bed and said, "Hold on, Doctor."

The doctor afterwards asked him why he conducted himself in any such way as this, and he admitted that it was for the purpose of gaining the sympathy of his wife. In all

probability he inflicted the dermatitis for the same purpose.

Case No. 5 was a young girl, eighteen years of age, who lived in the country thirty miles from Nashville. She was seen in consultation with two other physicians at her home. The case was one of suspected pellagra. Upon examination the patient would talk very little. She was in bed and was quite nervous. She had lost a great deal of weight and was quite feeble.

The eruption which had attracted attention was on the left thigh and leg and about the face and back of the hands. At once it was apparent that she had produced the dermatitis, and it appeared as if it was produced with strong carbolic acid. I asked if there was any carbolic acid in her reach, and was told that there had been a bottle on a certain shelf, but it had disappeared. I felt quite safe in expressing the opinion that it was a case of dermatitis factitia. It was not at all like pellagra. The consulting physicians rather hesitated to accept this opinion, but her nurse in attendance was placed on guard, and the patient was caught in the act of applying the carbolic acid to her toes, and was confronted with it. This case was ultimately taken to the insane asylum.

Case No 6 was a young man, a medical student, twenty-four years of age, unmarried. In January, 1908, a swelling appeared on the second joint of his little finger. Pus was found by incision. A few days later the ring finger was similarly involved, and was incised. The next was his middle finger, then the index finger, all on the same hand. Then the index finger on the other hand, the process passing on through all the fingers of that hand. The thumbs escaped. The left knee was next involved on the anterior surface, was infected, incised and drained. Then the right knee. Next the left elbow, from which at least a pint of pus was drained. Then the left shoulder followed.

By this time at least a half a dozen members of the faculty had seen him. I suggested to Dr. Oughterson, who had him in charge, that it was my opinion that the patient was innoculating himself. He was then watched very carefully, and it was discovered that this opinion was correct. The right shoulder was next innoculated. Dr. Oughterson confronted him with the statement accusing him of the innoculations. He denied it, of course. Dr. Oughterson told him that if another joint became involved he would have him placed in the insane asylum. No more joints became involved.

This patient kept the entire faculty and the laboratory workers busy for several months. Many cultures were made and vaccines used, but to no avail.

It seemed that the object which prompted the patient to pursue such a course was to elicit the sympathy of the faculty, and thereby secure a diploma on account of his illness, as he knew it was impossible for him to pass the senior examinations.

Patients of this character may be divided into two classes, as presented by Hyde—first, deliberate malingerers, such as criminals, soldiers, sailors, and others desiring to escape punishment of service, servants, nurses, and others desiring to avoid disagreeable duties or surroundings, and paupers or mendicants seeking charity, hospital accommodations, or other assistance. Second, hysterical or neurotic individuals, chiefly women and girls, who inflict these injuries upon themselves for reasons not always definitely recognized.

While there are apparently two classes of these cases—malingerers and the distinctly neurotic, I think we may consider the cause underlying the infliction of such punishment upon one's own body to exist in an unsound mind. Whether the patient is a true malingerer or a subject of hysteria, there will usually be found some psychological derangement. Hysterical stigmata were distinctly manifested in the cases above reported.

To bring the point out more clearly, I may mention a young man whom I saw about ten years ago who had blistered his entire right forearm for the purpose of gaining an excuse for begging alms. Another case reported by

Dr. Ravolgi of Cincinnati of a man who burned himself with an acid in order to escape duty.

There is a distinct purpose in view with both these individuals, yet we must concede that there is an altered personality or an abnormal mental condition found in both of them. Probably the mental derangement is not as marked in the malingerer as it is in the truly hysterical subject.

Normal individuals abhor pain and punishment. Through hysterical conditions areas of anesthesia may be developed, and upon these parts the lesions may be produced without pain either in the malingerer or in the distinctly hysterical patient. So I think we may safely say that the majority of patients who present lesions of factitious dermatitis may be considered at times mentally deranged.

In making a diagnosis of these cases the clinician should bear in mind that the lesions usually are unlike those of diseases of the skin, although the patient may attempt to simulate lesions of eczema, ring worm, or other diseases. The location, color and shape of the lesion should be noted, and the nervous temperament of the patient carefully investigated.

It is very seldom that direct questioning will result in any aid in the formation of an opinion. Patients are very cunning, most difficult to catch, and will deny to the very last until confronted with positive evidence that the lesions are self-inflicted.

In case of doubt the patient should be watched, or a fixed dressing should be applied, or it may be advisable to suggest to the patient that within a day or two a lesion will appear at such and such a place. Frequently you will be rewarded by the suggestion.

In giving an opinion one should be very cautious, for it is frequently the case that the physicians in consultation will hesitate to accept such an opinion, and the patient's attendants and relatives will incidentally call the physician a variety of names.

The treatment for these cases is that of any simple dermatitis. The nervous system demands the greater attention.

Eve building.

OPERATION OF TURBINECTOMY AND METHOD OF PACKING.*

By G. E. VAUGHAN,
Clarksville, Tenn.

It seems that the operation of turbinectomy, like many other operations, is enthusiastically supported by some surgeons and as enthusiastically condemned by others. This difference of opinion can be attributed largely to too extravagant claims made for the operation; also in a few instances the operation is not fully appreciated. There can be no doubt of the value in surgery of a properly performed turbinectomy, and in the class of cases indicated it is difficult to give relief by other means.

Among chief indications for the operation may be mentioned Hypertrpohic Rhinitis, Pharyingitis, Laryngitis occasionally, Hay Fever and Asthma, Muco-purulent Conjunctivitis, due to imperfect drainage through lachrymal canal, Blepharitis, etc., Acute and Chronic Catarrh of middle ear, Deafness, Tinitus, etc., Headache and General Debility resulting from imperfect breathing.

Partial and complete turbinectomy are referred to in the literature, yet I dare say that the complete and entire removal of inf. turbinate is seldom performed or even indicated. It frequently appears at time of operation that the whole turbinate had been removed, yet after the effect of adrenalin and cocain have

*Read before the Section on Ophthalmology of the Southern Medical Association, Nashville, Tenn.

disappeared, a respectable portion of turbinate at its attachment can be found.

The method of operation, whether forceps, scissors, chisel or saw, depends on choice of surgeon or contour of turbinate. The method usually practiced is as follows. After the nose is sprayed with antiseptic solution, adrenalin and cocain is applied on small, thin cotton pads for about twenty minutes, placing them on both sides of turbinate; then powdered cocain is applied after method of Freer by application first wet with adrenalin. The pendant portion of turbinate, bone and soft tissue, is then removed with whatever instrument chosen by operator, being careful to include the post tip. The post tip is usually the most important and difficult part of turbinate to remove. There are various methods used to prevent or control the bleeding which usually follows; some operators using only spray of adrenalin and cocain. In some cases where the bone is thin, the galvano cautery may be used to sear the line of incision, though there is more danger of hemorrhage by this procedure than by packing. Dr. Freer, of Chicago, and others have devised different methods which have proven very satisfactory, and it is probably because in my hands these methods were not properly applied that another method was sought for. Having had one case in which I could only control hemorrhage by postnasal tampou, which is both very unpleasant and dangerous, it occurred to me if another method could be devised making pressure from behind and still introduced through the nose, it would be very useful. The following plan I have used for the past two years with satisfaction. Folding one end of gauze strip about one yard long and one and one-half inches wide upon itself for about one and one-half to two inches, as though to be tucked, a silk suture is then firmly tied around this fold at the center, leaving both ends of suture string about twelve inches long; this fold is then held by angular forceps and introduced through nostril back to pharynx, keeping two ends of string in sight in front upon napkin. The piece of gauze is then firmly packed about site of operation, entirely filling lower meatus, occasionally holding with forceps and pulling on strings from front so as to cause the fold in pharynx to fit up to post. portion of packing. After nostril is packed well to the front the ends of string are tied over the packing. It is allowed to remain twenty-four hours and removed by simply clipping suture in front and pulling out packing as usual. Bismuth subnitrate rubbed into gauze with tr. green soap before arranging for use, as advocated by several specialists, is a valuable addition. A hypodermic of morphine is sometimes necessary to relieve pain resulting from tight packing.

G. E. VAUGHAN.

Clarksville, Tenn.

DISCUSSION.

Dr. J. T. Herron, Jackson, Tenn.—"I packed a nose not long ago similar to this in the case of an old lady. One of my confreres had the case, and he was called away. He had packed the nose, and I had considerable difficulty in removing his tampon. I used packing similar to the doctor's, and it worked like a charm. I had no trouble in removing it. I was struck with the way he illustrates it."

Dr. John Moore, Nashville, Tenn.—I think the doctor's method of packing a very ingenious one. I use the postnasal tampon, which would serve almost the same purpose. Another thing that I might suggest, a thing that I have used in packing cases after nasal operation. In placing the gauze in the nose, I do not like to use dry gauze, because of the difficulty in removing it. It would probably become infected in the time it is left in, and I think some antiseptic solution should be used on the guaze. I have found that the solution of aceto-tartrate of aluminum, about twelve and a half per cent, is especially satisfactory. The gauze can be easily removed without adhering to the surface. It does not injure the mucous membrane."

Dr. U. S. Bird.—"Post-nasal packing is about as unpleasant as anything I know of. I have used Freer's method of packing with strips of lint, and have had good results. Have seen the method of using a rubber sac and blowing it up. I have never tried it."

Dr. Dotson.—"I use Burney's sponge. Stephens makes a sponge, cotton compressed with gauze, sterilized by using dry heat. Cut them to fit in nose, introduce them while they are small, then the application itself will cause absorption of the blood and expansion of these sponges, and will control, I think, any hemorrhage. I never saw it fail to control any hemorrhage. Can be carried entirely back to poste-

rior space. This can remain in from twenty-four to forty-eight hours. To remove pour in a little peroxide of hydrogen in the nose. The Burney or Stephens sponge fills all the space, no matter what the curves or spaces to be filled. Expansion is complete. Have used this method for some four or five years, and have used nothing else since I began using it. You can use any kind of nasal forceps. If you have a large cavity, put two side by side. If you have a very small one, split one in two."

Dr. E. C. Ellett.—"Every one who has spoken speaks of putting gauze right against the cut surface. My experience is that I had more hemorrhage when I took the gauze out than I had from the operation. I have attempted to avoid this in two ways. One is to cover the gauze with rubber tissue. It is not hard to apply. The other is to use nobody's sponge, simply absorbent cotton dipped in sub-nitrate of bismuth paste. Catch hold of it and pull the whole thing out without any bleeding. It does not stick at all, not any more than it would stick to the palm of your hand. I am not familiar with the Stephens sponge. I have gotten around these difficulties by not packing at all. I do not do anything after doing the turbinectomy. I never remove all of the inferior turbinate. I put all patients to bed. That may be feasible, if you do all your work in a hospital, as I do. I put them right to bed and put nothing in the nose at all. I have never had to pack a nose after an operation of my own. I have had a good deal of trouble with cases that had been repacked. Of course they bleed, so does a tooth bleed when it is pulled. Tonsils bleed when you cut them. Of course they do not stop at once, but may bleed for several hours. I would rather bleed for a few hours than to have my nose packed again. I think, of course, if a patient has to go a mile or two in a vehicle over a rough street, may be it is not wise not to pack the nose, but if they live in a reasonable distance, and will go home and lie down and not blow the nose, they will not have a hemorrhage to amount to anything. May have enough to put hand on nose a little bit, but not any more than through a gauze packing. It seems to me that if one does pack, he ought to use some material that will not adhere, or use rubber tissue to prevent the packing adhering. I usually put a bismuth paste up against the superior turbinate. The inferior turbinate has very little to do with the breathing. We breathe over that. The middle turbinate is right in the space where we breathe and a clot around that will give rise to some obstruction. If a clot is allowed to form, it ought not to be disturbed until it disintegrates or is blown away of its own accord. By putting a bismuth paste in for a few hours, you can take it out and there is not any bleeding. I never had to pack a case of my own, but I did it in one case my assistant operated on a week ago. The middle turbinate he must have operated on extensively, because of the character of the bleeding. I happened to be at the hospital that night. The bleeding annoyed her so much by dropping into the throat, I packed her nose.

Dr. M. M. Cullom, Nashville, Tenn.—"I never use packing if there is any way to avoid it. After operating on the turbinate, I let the patient go. I do not send him to a hospital. Let him go without packing. My experience is they all bleed some, but the bleeding generally stops in ten or twelve hours. I tell the patient when he leaves not to blow his nose, but to wipe away what blood comes out. I expect some bleeding. They come back and say the nose bled all afternoon, or something of that kind. Far better not to pack the nose, if you can avoid it, as it interferes with breathing and causes infection.

Dr. G. C. Savage, Nashville, Tenn.—"It has been a long time since I have packed a nose, and I think it is to be credited to an agent that I have used almost since it was first introduced, and that is the drug-alumnal. Twenty grains to the ounce, sprayed into the nasal cavity, forms a thin white coating over the bleeding vessels, which checks the bleeding. Since I began to use that I have used nothing else to control hemorrhage. I have great confidence in alumnal."

DRINKING WATER WITH MEALS: A PHYSIOLOGIC AND DIETETIC STUDY.*

By GEO. M. NILES, M. D.,
Professor of Physiology, Southern College of Pharmacy; Associate Professor of Physiology, Atlanta School of Medicine; Gastroenterologist to the Tabernacle Infirmary.
Atlanta, Ga.

Water, the cup that cheers but not inebriates, the universal solvent, has claimed attention from the earliest antiquity. As a therapeutic agent it has proved most efficacious and since Naaman, the Syrian, was healed of his leprosy by bathing in the river Jordan even to the present moment, there has been no lack of earnest adherents to the various methods of hydrotherapy.

The literature on this subject is most voluminous; a glance at the list of references in the Surgeon-General's Library, Washington, revealed 32 volumes with 640 citations devoted to hydrotherapy alone.

*Read before the annual meeting of the Medical Association of Georgia, Rome, Ga., April, 1911.

There is one phase of the question, however, to which scant attention has been given, and, when mentioned at all, is alluded to in a careless and perfunctory manner. I refer to the propriety and advisability of drinking water with meals.

There is a widespread idea that the habit of imbibing water or any other fluid, as food is being taken, is harmful to the digestion; that it dilutes and weakens the gastric juice, therefore interfering with the proper functioning of the stomach. So fixed is this belief that many physicians, when instituting a dietetic regime, as a matter of routine, prohibit water with meals; while the printed diet list of a stomach specialist I have in mind bears the injunction: "Do not take more than one and one-half glasses of fluid with any meal."

This wholesale indictment I believe to be wrong. I believe it to be based on erroneous physiological conclusions, and promulgated more by tradition than by painstaking study or observation.

I unhesitatingly assert, therefore, that a generous quantity of pure and not too cold water taken with the daily meals, instead of being injurious, is conducive to health, and is contraindicated only in certain diseased conditions, which I will mention later in this study.

The older works on physiology taught that the contents of the stomach were kept in a general rotary movement, so as to become more or less uniformly mixed; that each portion of the contents were thoroughly "churned," as it were, so that the gastric juice would quickly and effectively permeate the whole mass; that the salivary digestion of starchy foods ceased as soon as the stomach was reached; and that the musculature of the stomach exercised a decided triturating power.

In recent years the subject has been studied with great success by means of X-rays, on the excised stomach, and by means of tambours introduced into the stomach to measure the pressure changes. These researches all unite in emphasizing one fundamental point—mainly, that the fundic end of the stomach is not actively concerned in its movements, but serves rather as a reservoir for retaining the bulk of the food, allowing the ptyalin more time to continue its work, and by the normal tone existing in the fundus, as well as the whole viscus, to gently force its contents down into the main body and pyloric region of the stomach as is required by orderly digestive progress. Furthermore, the observations of Cannon, and also Grutzner indicate that the successive portions of a meal as taken, instead of being speedily mixed, are arranged in definite strata. The food first taken lays next to the walls of the stomach, while the succeeding portions are arranged regularly in the interior in a concentric fashion. Such an arrangement of the food is more readily understood when one recalls that the healthy stomach has never any empty space within; its cavity is only as large as its contents, so that the first portion of food eaten, entirely fills it, and successive portions find the wall layer occupied, and are received into the interior. The ingestion of much liquid into an atonic stomach would interfere somewhat with this stratification, but not so in a stomach of normal tone.

As to the order in which the different elements are evacuated from the stomach, it has been demonstrated by Cannon and Pawlow that, when liquid food alone is taken, it can be forced into the duodenum in a few minutes, and when a mixed meal is taken, the liquid part is first expelled, then the major part of the carbohydrates, then the major part of the proteins, and last the fats. Fats remain long in the stomach when taken alone, and when combined with the other foodstuffs markedly delay their exit through the pylorus. On account of the stratification of the food as it is taken into the stomach, that taken first has the position of advantage. If it is carbohydrate, it is promptly ejected into the intestine; but if it is protein or fat, the passage of the

carbohydrate will be delayed. Water, however finds a ready exit when taken at any stage of a meal.

This, I trust, will demonstrate that water does not to any great extent permeate a mixed meal in the stomach, and consequently cannot to any appreciable degree dilute or interfere with the potency of the gastric juice.

I well remember the words of the late Prof. Austin Flint, Sr., who, in one of his lectures delivered twenty-five years ago, said: "Gentlemen, *theoretically* the ingestion of much water during meals would dilute the gastric juice and impair digestion, but *practically* this does not seem to be the case." Being a man I revered, I heeded his words, and for twenty-five years, I have drunk water freely myself, and admonished my patients, under certain restrictions, to do likewise. This course I have had no occasion to regret, nor have I changed my views since my practice has been confined to gastro-intestinal diseases.

Before going further, let me mention the conditions in which much water with meals is contraindicated: In gastroptosis, on account of the weight of the water, which drags heavily on the already relaxed and inefficient gastric support; in dilated or atonic stomachs —these stomachs where splashing sounds can be easily elicited—because there is not enough tone to the musculature to evacuate the contents properly, and an excess of water added to a meal would promote further atony and dilation; in patients with weak hearts or uncompensated valvular lesions. Occasionally, where there is a marked tendency to colic or spasm of the pylorus, water should be drunk very moderately with meals. I might also mention that copious draughts of ice-cold water gulped down during fatigue or profuse perspiration are both unhygienic and dangerous.

On the other hand, I find that a large percentage of patients coming under my notice for poor nutrition, constipation, intestinal autointoxication and numerous other states of disordered digestion, are those who drink no water with their meals, or, if at all, very sparingly.

Desiring some additional data on this subject, I enlisted the aid of sixteen young men, sopohomore students at the Atlanta School of Medicine, who cheerfully agreed to submit for one week to a series of experiments along this line.

These young men were of healthy physique, good digestion, and, with one exception, reported daily evacuation of the bowels. Their ages ranged from 20 to 33, and their weights from 124 to 168. All had normal hearts, lungs and kidneys, and their stomachs were of proper size and in correct position. Each one was in the habit of drinking one or two —not more—glasses of water or other fluid with meals.

Eight of these young men were instructed to drink no water or other fiuid with meals, and between meals to drink no more than demanded by actual thirst. The other eight were instructed to drink four glasses, or one quart of water with each meal, and between meals to drink it or not as was desired.

These young men were carefully watched, regularly weighed, and each symptom recorded as it appeared. The detailed reports would be wearisome, but I can summarize the results as follows: Of the eight who drank no water, all lost in weight—from 8 ounces to 2 pounds —with one exception. This exception remained at exactly the same weight, and it might be of interest to mention that this young man was holding his position as a railway mail clerk in addition to his college work, that he was so accustomed to irregular habits that cutting off his water did not affect him like the others. In addition to the loss in weight, each one complained of headache and more or less constipation, with the above mentioned exception. Only their loyalty made them hold out to the end of the week, and they all seemed glad to get back to their wonted allowance of water.

The eight who drank four glasses at each

meal fared much better. One of them said that four glasses rather crowded his stomach, but did not make him feel uncomfortable otherwise. Of these eight, all gained weight—from four ounces to two and one-half pounds—expect one whose weight remained the same. Not one reported headache, constipation, nor any form of digestive discomfort, and the single one who was constipated at the beginning of the experiement found his bowels more regular in five days.

I wish to repeat that *not one of the eight suffered a single qualm of indigestion, either gastric or intestinal,* during the week of this experiment. This report speaks for itself.

One objection which some of the Fletcherites or near-Fletcherites might interpose is that an abundance of water taken with food prevents thorough mastication and insalivation. To this I answer that the careless or hurried eater will be careless or hurried whether he takes water or not; while the one who masticates his food sufficiently (and by sufficiently I do not mean chews it till it is imperceptibly swallowed) will not be deterred by allowing water in liberal quantity. No one more than I favors adequate mastication, but we should remember that a part of the legitimate functions of the stomach and its juices is to reduce the semi-solid meal to a liquid, soupy mass; and when the zealous apostle of the oft-quoted Mr. Fletcher robs the stomach of much of its proper duty, the stomach will to that extent be weakened, just as any other active part of the body would be impaired by disuse.

This idea I have often heard stressed by Dr. Max Einhorn, of New York, whose words should assuredly bear weight.

During the digestion of every meal an increased amount of blood is required by every one of the organs concerned, and required promptly, if the meal is to be well digested and gotten out of the way of the next meal. At this busy period, therefore, an abundance of water ejected into the intestines is quickly absorbed, and, by temporarily increasing the fullness of the blood vessels, promotes intestinal secretion and peristalsis, to say nothing of its cleansing and solvent properties.

The human body in both its sanitary and constructive housekeeping, needs an abundance of water in order to well perform these manifold duties, and, as Solis-Cohen says: "Even the cells of the body are aquatic in their habits."

This necessarily brief presentation of a most important subject expresses a conviction, not based on the dictum of tradition, but based on physiological concept and clinical observation, and, thus fortified, I commend it to the sober consideration of my hearers.

409-10 *Candler Building.*

"ETHYL CHLORIDE ANAESTHESIA WITH SPECIAL REFERENCE TO ITS VALUE IN EYE, EAR, NOSE AND THROAT WORK."*

By LOUIS LEVY, M.D.,
Nashville, Tenn.

The use of ethyl chloride as a general anaesthetic until about fifteen years ago was more of an experiment than for its real anaesthetic properties of which little was known.

As a matter of history we find that in 1848 Heyfelder used it successfully as a general anaesthetic. Benjamin Ward Richardson in an article published in the Medical Times and Gazette December 28, 1867, gives us his experiment with ethyl chloride using it on a pigeon and tells of the effects produced; especially calling attention to the amount of oxygen that is given along with it. In 1880 the British Medical Association denounced it because they

*Read before Nashville Academy of Medicine, February 21, 1911.

found it quickly produced convulsions and arrest of respiration. It was not until the years 1895 and 1896 that it was brought back to the medical profession's attention by Carlson and Thursing and at that time used extensively in dental work.

At present it is still used a great deal in Europe and in this country it is used more in the North and East.

Before beginning upon the anaesthetic properties of ethyl chloride it is well to know something of its chemical and physical properties and uses in general.

Ethyl chloride is a haloid derivative prepared by the action of dry hydrochloric acid gas upon absolute ethyl alcohol. The chemical formula being C_2H_5Cl. When prepared we have a colorless liquid of aromatic odor and sweetish taste. It volatilizes at ordinary temperature without residue, boils at 12.5 degrees C. and does not solidify at 29 degrees C. Being extremely volatile it is kept in hermetically sealed tubes and in a cool place. It is very combustible and burns with a green flame setting free hydrochloric acid. For this reason we must be careful not to be too close to a flame when giving it to a patient.

Physiological Actions—Ethyl chloride is used as a local and general anaesthetic and as a stimulant when given in combination with alcohol; given in the doses of 10 to 30 minims.

As a local anaesthetic it is used a great deal in minor surgery, but when used locally it is better to use the ethyl chloride especially prepared for local anaesthesia as it contains methyl chloride and freezes faster. Amputation of fingers have been done under local anaesthesia by ethyl chloride.

As a general anaesthetic its action is very rapid and fleeting. Upon the circulation ethyl chloride's action is similar to, but less imperious than, that of chloroform; the arterial pressure usually being lessened although there may be an increase. There is usually an increase in the pulse rate. Owing to its great volatibility ethyl chloride is very quickly absorbed and almost as quickly eliminated; this being a big point in its favor. It is claimed by some that there is a change in the urine and that upon examination of same we will find albumin or large amounts of biliary pigments.

Ethyl chloride is taken best by children and old people, while neurotics, atheletes and drunkards take it badly. In the case of the latter three the administration of a hypodermic of morphia will aid in the giving of the anaesthetic and will also lessen to a great extent any rigidity there may be.

In the giving of ethyl chloride one must be sure that the article is pure and for that reason I call your attention to the following brands most commonly used; known as Kelene, Mulford's and Antidolorin. The last named is used in all our work both at the office and clinic. It is well when ordering ethyl chloride for general anaesthesia that you so state.

Just as you have a great many makes of ethyl chloride so have you in inhalers. Personally I have used the Antidolorin inhaler and like it very much. It weighs about 25 ounces and can be easily carried in a physician's satchel. This inhaler consists of a face piece of soft flexible rubber, a connecting metal tube in which we have an inlet tube and a flexible rubber bag holding about one quart. Cumston recommends an inhaler made by Tieman & Co., which consists of an oval rubber cone containing an opening in it's roof about 3 c. m. in diameter; into this hole or opening a tube 5 c. m. in length is secured through which ethyl chloride is sprayed into the cone upon several layers of gauze which have been placed over the face to protect it from direct contact with the anaesthetic. Other methods have been employed such as the hankerchief method, by the ordinary ether cone or by the use of an ordinary funnel which is placed over the face after first placing several layers of gauze over the face. Around the funnel then wrap a towel and in this way exclude the air. A point to remember in the use of any inhaler you may choose is that the spray of ethyl chloride must not come in contact with the fact and cause freezing of same.

Ethyl chloride can be given to patient in

either the sitting or reclining posture. If given in the sitting posture it is necessary to strap patient in chair for fear of his falling out when in the stage of relaxation.

Patient should be prepared for this anaesthetic just the same as for ether or chloroform. As neurotics, atheletes and drunkards take it badly it is best for two reasons that a hypodermic of morphia be given; first, that it quiets them and secondly it lessens the amount of rigidity. Attention is called to the fact that not only do drunkards take it badly but that it takes large quantities of the drug before they succumb and even then they generally remain more or less rigid. In the case of a child try and gain its confidence and in this way to an extent it will allay its fear, making the giving of the anaesthetic much easier both to the patient and physician. If given for operations about the throat the mouth-gag should be placed in position before the anaesthetic is started owing to the amount of rigidity which usually remains; thus saving time in trying to open jaws after patient is asleep.

Where short anaesthesia is necessary I think that outside of nitrous oxide, ethyl chloride has no equal. As the apparatus controlling the giving of nitrous oxide is too heavy to carry around ordinarily, this gives ethyl chloride an advantage especially for the country doctor who can place the inhaler and tube of ethyl chloride in his satchel and carry it with him at all times.

Now let us take a case and carry through to complete narcosis. With the patient in the position necessary for the operation we place cone over face and allow him to breathe through it showing him that he will not suffocate. Now remove inhaler and spray a small quanity of ethyl chloride into bag, gradually place back on face so that in this manner patient will become accustomed to it. As ethyl chloride has an aromatic odor and sweetish taste it is very pleasant to take, besides you do not have it followed by strangulation or salivation. Have patient breathe deeply so that it will hasten anaesthesia. At this point I call your attention to, and caution you against, the patient who holds his breath. This usually occurs in children and should be watched, otherwise you are liable to cause asphyxiation. The anaesthetic in a case of this kind should be withdrawn and cone removed from face but placed back as soon as child begins breathing again.

To tell you any one point by which you could be positive that patient was completely anaesthetized is rather difficult for what would indicate complete anaesthesia in one case would not in another. I have noticed time and again patients stiffen when the operation was begun and after they awakened if you ask them if they felt any pain they will answer no. It seems that although tactile sense is left the sense of pain is completely lost and in some cases continues after the patient is awake. Children especially stiffen when sitting in a chair although at first you may have complete relaxation.

As patient goes under you have the changes in pupil as in ether or chloroform, but not to the same extent. Pupil at first being dilated due partly to fear and then to the anaesthetic, next it contracts but if carried too far will again dilate. When patient is under the respirations are calm and deep though somewhat stertorous and a little more rapid. The pulse rate is usually increased. The muscular contractions abate and there is very little rigidity.

According to Ware, ethyl chloride acts first on the sympathetic nerve as shown by the accelerated pulse, transiently dilated pupils and flushed face. Next it acts on the spinal cord and finally on the brain all being acted upon in rapid sequence.

One of the noticeable features in ethyl chloride anaesthesia is the flushed face usually with profuse perspiration. Cases have been reported in which a slight erythema or even a pronounced rash has broken out.

McCardie in The Lancet, April 4, 1903, gives the following data in regard to the time necessary for anaesthesia in the giving of ethyl chloride for operations on tonsils and adenoids or adenoids alone:

Average duration of induction, 50.9 seconds.

Average duration of anaesthesia, 71.3 seconds.

Longest case of induction (faculty administration), 2 1-2 minutes.

Shortest case of induction, 15 seconds.

Longest case of anaesthesia, 2 1-2 minutes.

Shortest case of anaesthesia, 3 seconds.

He compares it with anaesthesia produced by nitrous oxide and also duration and says: "According to Hewitt the average inhalation period of nitrous oxide is 55.9 seconds and the available anaesthesia 30 seconds. Thus the induction period with ethyl chloride is shorter by 5 seconds while available anaesthesia is longer by 41 seconds. As compared with gas and oxygen, Hewitt states that the average period of administration is 110.5 seconds. Thus ethyl chloride has the advantage by 59.6 seconds. The average available period of anaesthesia by gas and oxygen is 44 seconds, which is exceeded in the case of ethyl chloride by 27.3 seconds."

McCardie states that we must remember that the averages taken included both cases of light and deep anaesthesia.

The after effects of ethyl chloride are usually slight if any, but I call your attention to a headache which is often complained of just after patient's awakening from anaesthetic. It, however, does not last long. Vomiting is rare unless patient has not been prepared and even in the unprepared, especially seen in the clinic work, it is seldom met with. Sometimes you may have patient with an excessive amount of mucous in throat. I have seen this in two cases and in both cases cone had to be removed from face and mucous wiped out although a great deal flowed out of mouth beforehand as patients were in the sitting posture. Cases have been reported of syncope. Failure of respiration is usually due to falling back of the tongue or lack of oxygen which should be given along with ethyl chloride. In these cases only do we have cyanosis.

Death when caused by ethyl chloride usually is sudden and within the first 30 seconds or so. In a great many reports of death by ethyl chloride it has been shown by autopsy that other factors were really the cause, such as fatty degeneration of the heart, fatty liver, nephritis, pleuritis, arterial sclerosis especially marked coronal sclerosis.

An anaesthetic is dangerous in proportion to the amount of chlorine it contains, therefore the danger in ethyl chloride must be due to the one atom of chlorine it contains.

Do not confound ethyl chloride with Somnoform produced by Rolland of Bordeaux, for it not only contains 60 per cent of ethyl chloride but 35 per cent of methyl chloride, a liquid which evaporates at 20 degrees below zero and used only to hasten the anaesthetic action and 5 per cent of ethyl bromide which though small in quanity is an additional danger to the compound.

Ethyl bromide is another compound used a great deal in the place of ethyl chloride and should not be taken for it. Ethyl bromide is very much more disagreeable to patient and has a garlicky odor which it leaves with the patient and also a taste as if patient has eaten garlick which stays for several days.

In regard to the mortality produced by ethyl chloride I present you with a few comparisons by men who have had greater experience in the giving and therefore more patients. Fortunately I have not seen a death due to ethyl chloride.

Ware, in the A. M. A. Journal November 20, 1902, presents a record of 12,436 cases with but one bona fide death.

Seitz of Konstanz gathered a record of 16,000 cases with but one death.

McCardie in one of his papers on the subject has statistics of 9,711 cases with 4 deaths of which he is cognizant.

Miller in the Boston Medical and Surgical Journal, May 20, 1909, gives the death rate as 1 in 8,759 cases.

Lotheissen gives the death rate as 1 in 2,550 cases and compares it with chloroform whose death rate he gives as 1 in 2075 cases.

As ethyl chloride is used mostly for short operations it does not seem fair to compare

it with ether or chloroform; and again the comparison with ether and chloroform when taking into consideration the number of more times they have been given, will no doubt prove that the comparison is not a fair one to either of the three anaesthetics.

In regard to nitrous oxide with which we can compare it we find statistics showing the death rate as 1 in 100,000 cases. So it would be rather hard to say that ethyl chloride was as safe. Although with the above we find it is fast replacing nitrous oxide as a preliminary to general anaesthesia by ether and chloroform. It is said to lessen the danger of syncope if given before chloroform. I have never used it before chloroform, but have with ether and find that it not only saves time and struggling on the part of the patient and also amount of ether used, but that it also seems to do away with the excessive amount of mucous which you usually have with ether and the vomiting which is also so common when ether is given alone. As a preliminary to anaesthetics ethyl chloride decreases the time required for the production of anaesthesia thus avoiding shock and discomfort to the patient.

As to some of its uses in general surgery I have taken the liberty of quoting others.

Erdman in the Medical News, May 28, 1904, says:

"Mazzoni of Rome has used it to do laparotomies and vaginal hysterectomy.

Malherbe of Paris tells of a mammectomy and herniotomy with it.

At Innsbruck they use it with patients having heart lesions and respiratory affections without bad results.

The pulse remained normal in a case of marked mitral obstruction reported by Nove Josserand. This same surgeon operated in the presence of advanced phthisis.

The Swiss surgeon Bossant reports similar cases.

In an article by E. E. Montgomery and P. B. Bland in the A. M. A. Journal April 20. 1904, they tell of using it in their gynecological work to allay the pain and relieve muscular contractions in abdominal and pelvic examination and in this way allow accurate diagnosis where otherwise you might fail. In enfeebled patients requiring vaginal incision for pelvic drainage it need not be administered until everything is prepared for the operation so that patients will be under its influence only a few minutes. They have had patients under its influence as long as 54 minutes and have performed a hysterectomy and the various combined operations on the pelvic floor and intra-pelvic viscera.

Its usage in abdominal surgery is limited owing to the fact that it does not overcome all the rigidity, although attention has just been called to the fact that some abdominal work has been and is still being done while under its influence.

It comes in quite handy in the reduction of a dislocated shoulder or in the setting of a fracture since it does not keep patient under long and yet allows enough relaxation and relief from pain.

My experience with the use of ethyl chloride is limited to eye, ear, nose and throat work and as there are so many short operations to be performed along this line it offers an advantage over the other anaesthetics.

In throat work such as the removal of tonsils and adenoids we use it as follows: In children under 12 years of age, unless we think they can stand local anaesthesia for tonsillectomy, we give ethyl chloride, having them in the sitting posture and do a tonsillotomy and adenectomy. After the operation patient is carried and put on a table with face downward so as to allow blood to escape from throat and mouth and in this manner prevent danger of strangulation.

On the other hand, if patient is over 12 years of age we usually do a tonsillectomy under cocaine anaesthesia, then wait about 10 or 15 minutes for the bleeding to stop and put patient on table and remove adenoid while under ethyl chloride.

Although not trying to take up your time with tonsil operations yet in doing them the question of an anaesthetic is very important.

Take the small child, does a tonsillectomy under ether with its danger of the after effects justify the operation? I think when you have given ethyl chloride a fair chance along this line you will agree that the small child should not be given ether.

I have never used ethyl chloride for any operations on the nose, but Dr. Hawley in his paper of August 18, 1906, A. M. A. Journal, refers to a report of Dr. John McKay, who has employed ethyl chloride in 48 cases in which the operations were about the head and 27 of these were on the sinuses and turbinates.

In short operations about the ear, especially for paracentesis of the drum it is indicated. We use it in all cases of this kind for the anaesthetic not only relieves the pain of working about the inflamed ear, but the operator can get along so much faster and better.

Ethyl chloride plays an important part as an anaesthetic in operations about the eye, such as: enucleation, tenotomy, iridectomy and in the expression operation on the trachoma bodies about the lids.

It has the following disadvantages of being rather expensive for long operations and for clinic work, and that in long major operations as patients are barely under its influence they may come out unless the anaesthesia is closely watched.

Its contraindictions are practically nil. The only ones I have seen mentioned being status lymphaticus and where the laryngeal aperature is abnormally small in which case the irritation of the vapor may cause a stenosis.

Although with me the use of ethyl chloride is limited I believe that it can be of great advantage to the surgeon and especially to the country doctor who needs short anaesthesia in a great many instances. Understand though that I should want the doctor in the country to know how to use ethyl chloride and have a general knowledge of its properties, otherwise it may prove rather dangerous in his hands.

Ethyl chloride is relatively safe. The danger point is not as easily reached as in chloroform nor does it carry the remoter dangers of chloroform and ether. You do not have cyanosis as in nitrous oxide and if patient becomes asphyxiated either by the falling back of the tongue or lack of oxygen necessary to be given with ethyl chloride, this can easily be remedied by pulling forward the tongue, removal of face-piece or if need be, artificial respiration.

The only case to cause me any real alarm was one in which patient was very anemic and undersized for his age and besides was deaf and dumb. He took the anaesthetic badly from the start, becoming even with plenty of air a little cyanotic. The operation, however, was performed and patient carried to table where I noticed he had stopped breathing. He was now very cyanotic. By the use of a pair of tongue forceps and artificial respiration, the child soon began to cry and was able at the end of thirty minutes to walk out of the office.

In conclusion I ask that you think of the following points about ethyl chloride and see if it is not worthy of a trial.

It is easy to give, pleasant to take, patient is usually under inside of a minute or two, do not have the amount of struggling as in ether or chloroform, patient is out from under its influence within a minute, does not cause cyanosis and you do not have it followed as a rule by bad after effects.

507 *First National Bank Building.*

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Next Meeting Hattiesburg, Miss., November 11-13, 1911.

An Interesting Report

A very interesting report by Dr. Fred J. Mayer is published in the bulletin of the Texas Board of Health for January, 1911.

This is a pamphlet of some twenty pages and appears monthly under the above title, followed in this issue by a motto: "Prevention is better than cure, and far cheaper." (John Locke.)

Ralph Steiner, M.D., of Austin, being President and State Health Officer, is ex-officio president of the Board of Health.

The board is new, and it tries in this bulletin "to indicate the general policy to be pursued." It promises progress, but will avoid "radical and presumptuous methods." It calls attention to the fact that Texas is "the only Southern maritime state to retain control of its maritime and quarantine service." Further it says: "It has never been found necessary to commit to the national government the affairs relating to public health."

The first recommendation the new administration offers to the people of Texas is that they adopt a custom proposed by the retiring State Health Officer, Dr. Brumby, and make the 11th of March a day of cleaning up all over the state, thus insuring a clean state once in a year at least. The idea is to point the way to constant cleanliness.

Most of the January bulletin is occupied by "the first three divisions of the report of Dr. Fred J. Mayer, of Opelousas, La., who at the request of the former State Health Officer officially visited European countries, the West Indies and Venezuelan and Columbian ports. For this work, admirably done, he refused to put in a bill for expenses, as the State Health Department would gladly have permitted him to do."

Part I of Dr. Mayer's report deals principally with matters relating to past conditions, with obstacles to convenient travel, foreign procedures, etc. Part II. is devoted to consideration of "disposal of dejecta."

He claims that in this respect many Ameri-

can communities are less civilized than were the Hebrews in the wilderness, for it is recorded in Deuteronomy, chapter 23: "Thou shalt have a place also without the camp, whither thou shalt go forth abroad." And he goes on to quote the command to carry a paddle with which to dig and "cover that which cometh from thee."

Thus was foreshadowed the modern earth-closet, which so many small places, devoid of sewers, are too indolent to install. In his enthusiasm Dr. Mayer exclaims: "Go to the cat, thou sanitary sluggard; consider her ways, and be wise." He would have health laws to oblige all towns of 1,000 inhabitants and over, to have sewer systems. In smaller communities or on farms, it should be obligatory to maintain well built box privies, effectually screened from flies, chickens or animals, with water-tight buckets under the seats, and boxes of dust or ashes, with scoops, for regular use; the buckets to be emptied twice a week or oftener. They should be emptied into a pit or trench and disinfected before burying. He mentions chlorinated lime, and no better agent could be suggested for the final touch. He draws the proper line between deodorants and disinfectants. He stigmatizes the privies of Southern school houses as "our crowning disgrace."

Part III deals with Asiatic cholera, which has, according to the records of preceding pandemics of that disease, three years and four months yet to run. He considers the possibility of cholera invading this country a very present danger, calling for the utmost vigilance on the part of the state and national health authorities. It reached New York in 1910, but was extinguished. The doctor considers the five days of detention at foreign ports of embarkation of all immigrants from suspected localities, as required by the U. S. Marine Hospital Service, a great safeguard to this country. The great obstacle to the eradication of cholera is the fact that the germ lives and grows outside the body on moist filth, and that flies can and do carry the vibrios from one mass of garbage or ordure to another. This renders screening of privies and their vaults indispensable.

At Hamburg vegetables that were fertilized with infected manure poisoned the water that irrigated them. The surplus ran into the river whence the city water was pumped, and over 8,000 persons died of cholera as a result. (Human ordure should never be used as a fertilizer for any edible roots or vegetables. The very idea is disgusting, and moreover such material is worse than worthless until it has either dried and pulverized, or been made into a very diluted solution, of which a barrel would contain not more than two or three pounds of the solid material.—Ed.)

The report is one more timely word in favor of decent living, but how hopeless the situation actually is can only be realized by an active health officer who tries to do his duty. Indolence, indifference, inertia are the three ins' that perpetuate the fourth—the infernal filth that is found on back premises.

A Sanitary Fraud

Mr. Charles Roome Parmelee, president of the Chinosol (pronounced Kinosol) Company, writes the Journal announcing the appearance on the drug market of three preparations which are "most decided impositions upon the medical profession." The names given to these mixtures are "Pix-Cresol," "Methenysol" and "Zylol." They are introduced respectively by the "Pix-Cresol Chemical Co., Kansas City, Mo.," "Samuel Metheney, M.D., Lincoln, Neb.," and the "Standard Chemical Co., Des Moines, Iowa."

They are sold as antiseptics, and Mr. Parmelee states that physicians who have used them report that "they have been getting satisfactory antiseptic results." He furthermore says that representatives of Chinosol "have actually been told by a good many physicians that Chinosol is an imitation, and that these preparations are the originals." The joke lies in the fact that the products in question are said to contain from 75 to 72 per cent milk sugar, the other 25 to 28 per cent being *Chinosol.*

The resulting emotions of Mr. Parmelee are of a mixed variety. He is proud of the efficiency of Chinosol that can prove so satisfactory after repeated dilutions; he is indignant that the doctors are so deceived and induced to pay an exorbitant price for his product; he realizes that this unethical exploitation of Chinosol will cause the sale of increased quantities, and will ultimately prove a fine advertisement thereof; and he is amazed at the "cheek" that could calmly claim the superiority of the adulterated over the original drug; and as the "Devil" and Mr. Dooley might say: "There—you—are!"

A ray of light shines out through all this murk. Dr. Metheney, of Lincoln, Neb., upon having his attention called to the fact that his actions and his product were unethical,, stopped the first and ceased to compound the second and acknowledges his error, like a man. Shake, Dr. Metheney. It takes courage to own up and make amends. *We know.* Few could "cast the first stone" at Dr. Metheney, of Lincoln, Neb.

A Flank Movement

For several months the pharamceutical journals seemed to have suspended their attacks upon the doctors who dispense their own remedies, and lovers of peace had begun to hope that the lion rampant, who is sometimes pictured as laboring with mortar and pestle, had consented to lie down with the lamb-like doctor without any such intimate relations as would necessarily obtain if the lamb were given an inside position. Doctors were beginning to feel so safe on a street where the soda fountain raged that they did not so religiously keep on the other side. But in the N. A. R. D. Notes ("N. A. R. D." stands for National Association of Retail Druggists, while the "Notes" are neither musical nor bankable, but just "hot air"), published in February last, there appeared an editorial which indicates that the one-sided, lop-eared contest is not dead, but only sleeping. It is denominated "one-sided" because only one party is trying to do something to the other, the said "other" making no effort to retaliate; and lop-eared because the N. A. R. D. protagonists seem to hear with one side of their brains and talk with the other; hence their symmetrical auriculation and non sequitur lucubrations. The indications of a renewal of hostilities consists in a new position assumed by the editor of "notes" of such a character that while he seems to wave a long green thing that somewhat resembles an olive branch, it is in reality far different. Indeed, at first sight it might be mistaken for that symbol of amity, but closer inspection reveals a suspicious odor and a serried rank of sharp thorns, and behold! Instead of an olive branch it is a leafy bough of osage orange, borrowed from the impenetrable hedge the N. A. R. D. would rear between the doctor and his patients. It is this way. As many of our readers will remember, the first outcry of the N. A. R. D. journals was against the doctor *dispensing* to his patients the medicine he had prescribed. He was credited with sufficient knowledge to warrant him in deciding as to the nature of the disease, the kind of medicine needed, the proper dosage and mode of administration. But he was not competent to supply that medicine even though he bought it from the same manufacturer that his home druggist patronized. The doctor was such a conscienceless ass that though his living depended upon the success of his treatment he would buy cheap and worthless drugs just to save five or ten dollars a year; (ten dollars worth of modern drugs goes a long way.) But the druggist, being more conscientious, would buy only the best. Also there was always danger, they said, that the doctor would commit dreadful mistakes unless his prescription were overlooked by a competent druggist, or at least were "put up" by his fly and sapient clerks. So they tried to get laws passed to keep doctors from dispensing medicines except in cases of emergency. And if in such an emergency a patient died, the doctor must submit a report of the medicines used *to a*

committee of druggists, not of doctors, mind you.

But it did not work. Somehow the altruism was too diaphanous. The doctors cussed a little and laughed much. The legislatures took a fool notion that only the most sordid motives were behind the movement; that the druggists wanted to stop the doctors from dispensing, not because they feared for the safety of the dear people, but because they wanted to nail some of the dear peoples' money by filling their prescriptions. It is curious what silly notions legislators sometimes entertain, but so it is, and what could be done about it? In fact, though most of our solons are country bred, they were not so easily fooled as the N. A. R. D. thought. So they made a new plan, schemed a new scheme, and as they could not succeed in hogging the whole loaf they are now reaching out for half. The new pill-anthropic plan is as follows: The editor of "Notes" now says of the effort that failed: "The idea is correct, but the statement of it is faulty. Pharmacists who believe that legislation is wise, proper and needful really do not wish to call it into action against *dispensing,* but against *compounding.*" The law pharmacists desire is, he says, "a law which will compel physicians who *compound* to qualify under the pharmacy act."

"And there you are!" You may supply the sugar and the water and the *spiritus frumenti,* but don't you dare to mix them. Let the nurse or the patient do that part of the job. If poisoning must be done, do it behind the soda-counter, or thereabouts, otherwise autointoxication is the sure result. Whether giving a tablet of podophyllin and, at the same time, one of calomel, would be considered "compounding," is an unsettled question; that is, unless the doctor himself were to swallow them. Then, of course, he would be guilty of "compounding." If he wishes to give tincture of iron and Fowler's solution of arsenic they must be supplied in separate bottles. The doctor must not "compound" them. He may leave it to the old grandmother, if there be one, or to the negro nurse, or to the patient; but the doctor must not do it. He must not "compound." In the average country practice, with no drug store for miles around, the doctor who does not supply most of the medicines required by his patients might as well quit practicing, before starting. The very narrowness of the view taken by the N. A. R. D. people demonstrates their psychological diminutiveness. Their view embraces only the circumference of their individual horizons, and they do not realize the existence of environments beyond the limits of their myopic vision. Truly of all the asinine imbecility ever conceived this compounding scheme seems to bray loudest.

The assumption that the druggist is more conscientious than the doctor, class for class, is a conceited absurdity. Moreover, the temptation of price, though it might appeal to the druggist in the large quantities he needs, would not touch the small purchases of the doctor, who, indeed, counts the cost so seldom that more often than otherwise he will leave the few triturates or tablets needed without charging anything for them.

The same manufacturer that sells to the pharmacist supplies the physician also, and as for skill and accuracy, the tablet triturates, standard tablets and fractional granules supplied by the large established manufacturing drug houses are of the best material in existence, and weighed and compounded with an accuracy unapproachable by the average druggist.

The N. A. R. D. assumption of superior accuracy is fallacious. Too many physicians have been disgusted by Dovers powder mottled white and yellow because of imperfect compounding; or clay poultice (cataplasma kaolini) with a pool of glycerine and water on top, both being the result of economical, home-brewed pharmacy. Druggists are clever fellows as a rule, good men and true, doing good work; but some of them have been led astray by an issue as unnecessary as it is unwise. It is not their God-appointed or man-directed task to protect the public from the ignorance of a doctor now and then. The

public soon learns to do that for itself. Better drop it, brother gallipot, and be on good terms with old sawbones, "just like we useter be."

Entrance Requirements of American Medical Colleges

There has been so much discussion during recent years, of the lack of proper education possessed by young graduates in medicine on the one hand and the better preparation now demanded of would-be matriculates in medical colleges, that some confusion has arisen.

Students living in towns where, or near where, schools of medicine are situated, may have an idea of what is required before matriculation, but there are many localities where the situation is not so well understood. Roughly stated, the requirements are that the student shall study eight years in a grammar school, and then four years in a high school, or the actual equivalent of an education thus secured, the convenient technical expression thereof being 14 Carnegie units.

By a unit is meant a course of study pursued throughout one academic year, with five forty-minute recitations a week. Generally three high school courses in English (3), three in mathematics (3), one in history (1), Latin three (3), two in French, German or Spanish (2), one in Greek (1), and one in botany would make an excellent 14 unit preparation for matriculation in the average medical college.

It is very probable that 15 units will soon be the lowest standard for matriculation, in which case advanced work in physics would be an admirable help.

The foregoing is merely suggestive. In many cases two modern languages would be advisable. Every year more of our new graduates and young practitioners go to Europe to broaden their minds and increase their knowledge, and some of the most valuable medical literature is published in foreign languages.

The time has gone by forever when a desk, two chairs, an operating table, a stethoscope and a few test-tubes, backed by half a dozen old text-books, were all that was required for the equipment of the doctor's office. Nothing less than a small but practical laboratory will do the diagnostic work, and the microscope is in constant use. It takes a long time, too, to mentally equip one for such work, to say nothing of the other and less evident parts of the preparation.

Think what it all means. A boy begins attending school say at six years of age, and that is two years too early. At fourteen he enters the high school, where he remains until he is eighteen, the age at which he could begin earning his own living, and more, were he to begin work. But instead he matriculates in a medical college, where, if he is diligent and keeps his health, he can win his degree of M.D. by the time he is twenty-two. Is he ready then to enter upon his life work? He is not unless he is willing to settle down to obscurity and imperfect, poorly paid work for many years. If he cherishes a laudable ambition to excel he will continue his preparations. The best course for him to pursue is to secure an interneship in some large, well-conducted hospital, where he can become personally acquainted with and observe the work of men of large reputation. Then he can struggle along for two or three years to establish a practice, but every year he must visit the medical centers 'to keep up." By the time he is twenty-six or twenty-seven he should be ready for the grand, though probably unnecessary step, the year in Europe. He can see just as good or better surgery and infinitely better internal medication in America, but the advertising value thereof is far inferior to that of "study in Berlin, Vienna, London and Paris." Such is an outline of the preparatory years as passed by thousands of young doctors, and they are the fortunate ones.

Many fail to secure hospital appointments, but do the next best thing. They do the laboratory work for some busy, successful,

up-to-date doctor, observe his methods and learn how to do good work.

Altogether it is a long, arduous undertaking, and the rewards, from a worldly point of view, do not begin to compare with those awarded to members of the legal profession, whose courses of professional study are far less exigent and expensive, whose success and failures are generally expressed in terms of dollars instead of in lives saved or lost.

Whenever a youth approaches the writer with a request for advice about undertaking the study of medicine, he tells the young man about the fellow who asked the advice of Punch as to whether he should get married or not, and gives him the same brief answer, "Don't."

Two Are Better Than One

At least, sometimes such is the case. For instance:

There is an old doctor, old in years and in experience, old in his views and in his medication, one of the grand old pioneers in medicine, who, because they once knew it all, or at least thought they did, cannot easily understand why they do not lead in the work today. He would not doubt the usefulness of laboratory investigations and diagnosis, but he did not wish to learn all the refinements now demanded, and he feared to take a recent graduate into his office to do that work, lest he should nurse an adder to sting him; in other words, supplant him.

But it chanced that a bright young graduate, who was a distant relative and who had a better location already selected, but wished to get more practical experience before branching out alone, proposed to do all his laboratory work for him during one year, on condition that he be given every opportunity to see how the popular old doctor did his work and cured his patients. It was stipulated that "each should show the other how," and the work began. Every case of any obscurity, and some apparently very simple ones, was required to furnish specimens of urine and feces, and perhaps of sputum, or a drop of blood.

The "boy" had a little money, a microscope and an operating case. He bought a centrifuge and some simple apparatus and reagents, fitted up a room adjoining the office, and seldom shut the door when at work. Curiosity slightly increased the number of patients, and soon a case of hookworm was diagnosed, treated and cured. Other successful uses of the laboratory developed, and the practice grew so large that they both had their hands full; for laboratory work is slow and a time killer, while a big practice behind a steady old horse in a scattering town is almost like Sherman's designation of war. But it was interesting, and profitable, and before the year was over both concluded to let well enough continue. Now (that was a few years ago) the old doctor still does the outside practice, the younger doctor attends to most of the office cases while a still newer doctor, assisted by a white-capped lady assistant (who also looks after preparing female patients for examination and treatment), runs the laboratory end of the concern on a modest salary.

There are hundreds of doctors scattered all over the South who can easily duplicate the above described experience. The doctor must, of course, be thoroughly able and equipped, with an established practice to start with, and his assistant must be carefully selected. The result would be to increase patronage, retain patients at home instead of exiling them in distant hospitals, inspire the citizens with confidence, and discourage the intrusion of newcomers into a field already so well occupied.

Properly managed it is a good proposition. Try it, doctor. You will not regret it if you get the right sort of laboratory assistant.

The Medical Association of the State of Alabama

This Association met in regular annual session at Montgomery, April 18-21, 1911.

The President, Dr. Wyatt Heflin Blake, of Sheffield, presented an address which did

full justice to his reputation as an accurate and conservative thinker. It is published in this number of the Journal at the head of Original Articles. The Jerome Cochran Lecture was given by Rudolph Matas, M.D., of New Orleans, La. It was devoted to certain aspects of tuberculous affections not generally considered, and was entitled, "Inflammatory Tuberculosis; Tubercular Rheumatism, and Allied Manifestations of the Tubercular Intoxications." The paper is of unusual merit, and we hope to present it to our readers.

The annual oration was delivered by Jesse Gary Palmer, M.D., of Opelika, and was a profound effort, dealing deeply with the psychologic aspects of the duties of physicians.

The Monitor's Address, by Dr. Henry Altamont Moody, Mobile, was devoted to an attempt to show how vitally necessary is medical organization, not only to the physicians themselves, but also to the preservation of our present form of civilization. It appears elsewhere in this number of the Journal. These papers are mentioned at this time, as they were in fulfillment of a fixed and regular order of the Association.

Many other papers, most of them of great interest and value, were read and discussed, most of which will appear in our pages. They promise our readers much that is not elsewhere available. The meeting was a success in every respect. The number of doctors from Alabama who came to demonstrate and enjoy their membership was very gratifying to those who are devoted to the Association.

Among the distinguished visiting physicians from other states may be mentioned Dr. Rudolph Matas, of New Orleans; Dr. Stuart McGuire, of Richmond; Dr. W. L. Dunn, of Asheville, N. C.; Dr. Charles F. Craig, of Washington, D. C.; Dr. Wm. B. Trimble, of New York City, and Dr. R. H. von Esdorf, U. S. Public Health and Marine Hospital Service, now on duty at Mobile.

One gentleman who, though prominent in Alabama, happens not to be a doctor, participated in the proceedings. He is the Hon. Wm. Dorsey Jelks, ex-Governor of Alabama, now residing in Birmingham. He read a paper entitled "The Physician's Relation to Life Insurance," which will be placed before the readers of the Journal.

The social features, which are always very important items on the program, were administered *secundum artem* by the Montgomery doctors. Not an item necessary to perfect enjoyment was lacking. Further specification is unnecessary and might prove embarrassing to certain temperance leaders. No more efficient or harmonious session of the Association has ever been held.

Officers elected for the ensuing year are:

President—L. C. Morris, M.D., Birmingham.

Sen. V. Pres.—C. L. Guice, M.D., Gadsden.

Jun. V. Pres.—M. L. Malloy, M.D., Eutaw.

Orator—D. T. McCall, M.D., Mobile.

Secretary—J. N. Baker, M.D., Montgomery.

Treasurer—H. G. Perry, M.D., Gadsden.

Next meeting, third Tuesday in April, 1912, at Birmingham.

BOOK REVIEWS

COLLECTED PAPERS BY THE STAFF. St. Mary's Hospital, Mayo Clinic. Rochester, Minnesota, 1905-1909. W. B. Saunders Company, Philadelphia and London, 1911.

The Mayo Clinic! What a name to conjure with! Where breathes the American surgeon who has not dreamed of visiting that shrine of solid learning and fearless efficiency? Rather than miss that pilgrimage doctors have reconciled their consciences to the unwarranted expenditure by imagining themselves to be suffering with cholelithiasis and made the journey in physical and spiritual peace.

But where one has been so fortunate as to enjoy the privilege of watching those deft, trained fingers delving into the most hidden recesses and guiding the keen scalpel, perhaps unseen, safely and

beneficently along lines a hair's breadth deviation from which would mean swift death, thousands of other doctors, busy, hard-driven or impecunious, have been compelled to stay at home and wish for the luck of the fortunate ones.

There was once a great man who, when he failed to induce a mountain to come to him, got up from his knees and went to the mountain. Today the fable is reversed and the mountain comes to Mahomet.

Though we cannot all go to that great hospital, where the Mayos and their confreres do such wonderful works, those works now come to our very offices and invite us to witness them while we sit at ease on our professional chairs, in 632 splendid pages containing over sixty separate articles, each describing some surgical problem, and its solution. Where the text by itself is not sufficient, it is thoroughly illustrated by charts, diagrams or photographs, rendering each article a complete clinic.

The writing and illustrating is all done by members of the staff, fifteen in number, of whom one, a woman, is the editor. Nearly all of the papers have been read before different medical societies and published in various medical journals. In that shape they were far less available and useful than they now are. They make a book whose value to the modern student and practitioner of surgery is inestimable. It would be futile for the reviewer to present any special feature of the work. It would be like criticising gems in a necklace wherein each pearl lent luster and value to every other.

The painstaking minuteness of everything the Mayos undertake is shown in the profusion of illustrations of the highest class of work wherever they are useful. Thus, in illustrating ulcer and cancer of the stomach, forty-two half-page photo-engravings are grouped after the text. Every leaf in the book is apparently of cameo paper, than which no finer medium for such expression is obtainable. Analysis shows that of the sixty-five papers, long and short, Mr. William J. Mayo is the author of seventeen and Dr. Charles H. Mayo of twelve.

This review is written merely to call the attention of the medical profession to the fact that such a book is obtainable. No lover of surgery will fail to secure it, and he will never regret the $5.50 he pays for it, delivered at his office. Truly, it is as though the mountain had come to Mahomet.

World Corporation. By King Camp Gillette, Discoverer of the Principles and Inventor of the System "World Corporations. New England News Company, Boston.

Mr. Gillette has dreamed a dream or had a vision of all the world united in one corporation, wherein all competition is abolished and, no motive for crime remaining, it disappears.

The vast corporation concentrates its energies at one point, apparently New York, whence its divergent threads enmesh all humanity in their beneficent web. He has worked the whole thing out down to the smallest detail and plainly shows that all apparent obstacles or difficulties in the way of a realization of his scheme are unreal, unsubstantial, illusory and easily overcome. He presents the scheme in full in the book under consideration, giving a fac simile of the charter, with its limitless authorized capital, as issued, signed and sealed by the Territory of Arizona in June, A. D. 1910. The following sentence, quoted from the charter, shows the moderate and practical character of the enterprise: "Certificates of Stock in the Corporation shall be issued only in the following denominations: One, Two, Five, Ten, Twenty, Fifty, One Hundred, One Thousand, Ten Thousand, Fifty Thousand, Five Hundred Thousand and One Million Shares." According to the latest grapevine telegraph, there still remain some certificates of the denomination last specified, unsold. Par value is $1.00 per share.

Seriously, the book is well gotten up and is well worth reading, for it contains some ideas not commonly current, and such are "just as good as new" in a world where a new idea is of priceless value.

Practical Treatment. Volumes I. and II. A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Volume I: Octavo of 909 pages, illustrated. Volume II., 865 pages. Philadelphia and London; W. B. Saunders Company, 1911. Per volume, cloth, $6.00 net; half morocco, $7.50 net.

For some time physicians everywhere have been looking forward to the publication of the above-named work. The reputation of Drs. Musser and Kelly, their wide acquaintance, their numerous graduated students and their hosts of professional friends constituted a combination of conditions most favorable to the success of their ambitious undertaking.

The first two of the three proposed volumes have now been issued by the press of the W. B. Saunders Company, and to say that they justify the most sanguine anticipations of the friends of the editors is but a lukewarm expression of their satisfaction.

The names of more than one hundred of the ablest physicians of the age are given as contributors to the work.

The first volume is "Dedicated to Horatio C. Wood, M.D., L.L.D., Emeritus Professor of Materia Medica, Pharmacy and General Therapeutics in the University of Pennsylvania; a Pioneer in the Science of Therapeutics and a Master of its Art; an Eminent and Forceful Teacher."

This dedication is an indication of the general character of the work, as a text is the foundation of a sermon. It is devoted to the practice of medicine and not to the theoretical etiological problems alone. The active element of the great profession, the silent element, which does most of the practice and least of the talking, has long been tired of voluminous works on the practice of medicine, which do not tell how to treat diseases or disease conditions. They find no grounds for adverse criticism. The authors believe that the chief interest of the sensible physician is "centered in the practical treatment of disease, all else that conduces thereto—means to an end."

The forepart of the work "is devoted to a general consideration of therapeutic measures." This consideration occupies practically all of the first 700 pages of this volume, the remaining 150 being devoted to "Food Intoxication and Poisoning," "Drug Poisoning and Drug Habits," "Sunstroke," "Diseases of the Blood," "Diseases of the Lymphatic System," "Diseases of the Ductless Glands," and "The Surgical Treatment of Diseases of the Thy-

roid and Prathyroid Glands." Diabetes Mellitus is included in this volume, its obscure etiology rendering it, in the general opinion, of difficult classification. The first chapter, "The Fundamental Principles of Therapeutics," is written by Dr. Musser himself. It is one of the clearest, yet most profound analyses of the physiologic and biologic relations existing between organic structures, with their manifestations of disorder or threatened disintegration, and the chemical, mechanical or physical properties of drugs and their modes of action, that the reviewer has hitherto seen.

It incites the physician to first make a careful diagnosis of the disturbing element, or disease; then of the degree to which the system can, unaided, cope with it; then of the points wherein nature fails to relieve or cure; and finally to determine the degree and character of assistance required of him by nature to obviate damage to tissue or function, and to restore physiological equilibrium. He says: "The indications for treatment are based upon: (1) The cause of the disease. (2) A true conception of the morbid process. (3) The result of the examination of all the organs of the body. (4) The symptoms. (5) Family, social and previous medical history."

There is nothing new about that. On the contrary, it is old, but it places each element of practice in its proper place.

In the body of this volume more space, 137 pages, is devoted to the consideration of dietetics, foods, their preparation and administration than to any other single subject.

Speaking of blood tonics, he recommends minute doses of iron. He has "had very good results by giving one drop of tincture of perchloride of iron in a tumblerful of water twice or thrice a day."

The reviewer learned, years ago, by a failure of his own, followed by the success of an "irregular," that minute doses of iron are sometimes efficient where larger ones fail. Apparently nature accepts a modest offering when she would revolt at a profusion. Dr. Musser believes in the usefulness of calcium chlorid in lack of coagulability of the blood, in derivatives of the suprarenals for Addison's disease and for increasing arterial tension, while thyroid has the opposite effect, relaxing tension, and therefore relieves Reynaud's disease and cures chilblains.

When both sides of the heart are diseased and there is general failure of the circulation, digitalis is preferred; but where the tension is high and "the hypertrophied left ventricle about to give way, strophanthus is preferable to digitalis. And so from page to page the reader lingers, finding a germ for thought, a new idea or a valuable statement every time he turns a leaf.

The editors of this great work deserve the thanks of the medical profession, and their enterprising publishers are to be commended for the elegant and substantial form in which they have presented Volume I.

VOLUME II.

So much space has been devoted to a review of the first volume that the consideration of the second must necessarily be more condensed. The first volume was received and examined before the second reached the reviewer's table. Consequently so much time and space were absorbed by the exceedingly interesting character of the work that the reviewer now almost wishes he had delayed his analysis a little longer. On the other hand, the difference in the organization of the two volumes warrants different treatment, the first carrying much work that is purely therapeutics, the second being more uniformly devoted to the immediate application of therapeutic principles to the treatment of diseases.

A glance at a few of the authors, and names of some of the conditions and diseases it treats of will illustrate its comprehensive character. Diseases of Cardio-Vascular System, by Sir Clifford Allbut, M.D.; The Surgery of the Heart, by Clinton T. Dent, Esq., M.C., F.R.C.S.; Typhoid Fever, by Rufus I. Cole, M.D.; The Surgical Complications of Typhoid Fever, by John M. T. Finney, M.D.; Pneumonia, by Hobart Amory Hare, M.D.; Diphtheria, by George H. Weaver, M.D.; Intubation and Tracheotomy in Diphtheria, by John H. Jopson, M. D.; Scarlet Fever, by George H. Weaver, M. D.; Measles (Rubeola), by George H. Weaver, M.D.; Rotheln (Rubella), by George H. Weaver, M.D.; Tuberculosis, by Edward Osgood Otis, A.B., M.D.; Toxemia, Septicemia and Pyemia, by Richard M. Pearce, M.D., and Arthur W. Elting, M.D.; Syphilis, by J. William White, M.D., and Alfred C. Wood, M.D.; Gonococcic Infection, by Edward Martin, M.D.; Vaccinnia and Variola and Chicken Pox, by Jay F. Schamberg, M.D., and twenty-six more chapters, treating of some one disease, together with a liberal index, accounts for the 865 pages of this splendid second volume. Although the title page says nothing about any illustrations, nevertheless, though not a "picture book," it is efficiently illustrated. In one instance at least, namely the descriptions of intubation and tracheotomy, the photo-engravings are better than a clinic. The positions and successive steps can be more carefully studied from the sun-paintings caught by the lightning-quick wink of the ready camera than would be possible in the rush of an operation in the amphitheater.

Of course, some subjects, being of greater importance than others, receive more attention than others, and it would be difficult to find anywhere a more comprehensive, practical and complete consideration than is allotted to Pulmonary Tuberculosis in the 115 pages it occupies in this second volume, including 99 engravings and diagrams, relating to tuberculosis, its prophylaxis and treatment.

The up-to-date character of the work may be inferred from the fact that the study of syphilis is enriched by a full description of the spirochetae pallidae, the Wasserman reaction and the treatment with arsenobenzol ("606") or dioxydiamidoarsenobenzol.

DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN. By Henry Sturgeon Crossen, M.D., Professor of Clinical Gynecology of Washington University, Etc., Etc., Etc. Second Edition, Revised and Enlarged, with Seven Hundred and Forty-four Engravings. Published by C. B. Mosby Company, St. Louis.

In the preface to the first edition the author states that "the work is devoted exclusively to the *Diagnosis* and *Treatment* of Diseases of Women," and no unnecessary space is given to other considerations.

He tries to present facts and their relations "unencumbered by the vast and confusing mass of gynecological knowledge with which the specialist has to deal."

The book is a picture book. In the front portion almost every page has a picture, sometimes two. Most of them are photo-engravings of various de-

grees of excellence, but there are a few woodcuts and diagrams.

The physician who studies this book well will be able to recognize almost any pathological condition a woman, as a woman, can present, and will know what to do with it or for it. Perhaps it is not the best book from which to learn gynecology, but it certainly is an excellent one wherein to learn how to practice it.

According to the judgment of the reviewer, it is worthy of the support of the entire profession. The paper, binding, typography and literary style, though matters of only secondary importance, are, like the costumes of men, indications of character. In this instance they are excellent, and afford no room for hostile criticism. It is one of the many good jobs done by the Mosby Company, of St. Louis, Mo.

International Clinics. A Quarterly of illustrated Clinical Lectures and Especially Prepared Original Articles. By Leading Members of the Medical Profession Throughout the World. Twentieth Series, Volume IV., and Twenty-first Series, Volume I. 1910. J. B. Lippincott Company, Philadelphia and London.

We owe our readers sincere apologies for postponing the review of many valuable books for so long a time. The truth is that those same readers have favored us with such a wealth of literature in the shape of original articles and with verbal suggestions of topics for immediate consideration that the pile of fine books on the reviewer's table mounts up to conscience-striking proportions. Moreover, the policy of the Journal is to review, when it reviews, and make no pretense thereat; and such a policy implies much reading and a considerable amount of writing, requiring much more time and labor than the mere publication of whatsoever printed notice the publisher sends with the book. The result of this policy is not only to keep us in arrears in reviews, but also to bring us all the finest and best books pertaining to medicine published in the English language. Among the notable books awaiting review none stand higher in the reviewer's esteem than the volumes of the "International Clinics."

They present to the profession the opinions and the work of the leaders in medicine, in all its branches, all over the civilized world. Each succeeding volume seems to surpass its predecessor in the usefulness of its contents and the elegance of its workmanship. The two volumes under consideration are no exceptions to this rule. In Volume IV. of the Twentieth Series the leading article in the department of Diagnosis and Treatment is devoted to "Ehrlich's New Preparation, Arsenobenzol (606) in the Treatment of Syphilis." The writer is Henry W. Cattell, A.M., M.D., Fellow of the College of Physicians, Philadelphia. Though the article is brief, it is finely illustrated and gives the best descriptions of the technic employed, with most minute details, for the preparation of the drug, instrument and patient, and the administration of the dose.

Dr. Cattell warns his readers not to be too enthusiastic in their judgments, as the drug is so new. He says the value of the treatment will soon be decided by its effect on the Berlin prostitutes, who are flocking to the hospitals for treatment.

Another article is contributed by Drs. Schweinitz and Shumway, describing an incompleted case of iritis papulosa treated with salvarsan, but the results as narrated seem uncertain.

Pancoast gives an article on Treatment of Leukemia by the Roentgen rays. He claims improved condition, prolongation of life, but no absolute cures. Barker, of Johns Hopkins, submits an article on Blood Examination and the General Practitioner which is full of practical instruction. Every up-to-date doctor should read it. Other valuable papers are printed under this heading.

Under the heading, Medicine, Klein, of Vienna, writes of "Cholera Nostras—Cholera Asiatica." He accuses ants and flies, and even the circulating money, of distributing the cholera bacilli. Washing the streets was found to increase the infection. When the washing stopped the mortality sank from 80 down to 50 or 40 per cent.

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Under the head of Surgery there are ten articles by distinguished surgeons. Neurology occupies 47 pages, Pathology 37, Ophthalmology 16 and State Medicine 33. A "Post Graduate Course" on "Wounds by Firearms," splendidly illustrated and filling eighteen pages, complete Vol. IV, Series 20. Price, $2.00 net.

Volume 1, Series 21, opens with a dissertation on "The Spread of Pellagra Throughout the United States" and is illustrated with five photo-engravings and a colored map. Dr. Zeller, the author, considers the disease a serious menace. He shows by statistics that it is rapidly on the increase, and so far no absolute knowledge as to its cause exists. He states that the disease is widespread in Austria, a census of only a small part of the empire showing 78,000 cases. Roumania has between forty and fifty thousand. He recommends action by the general government for its suppression.

In Medicine, Poliomyelitis occupies 15 pages.

In Pediatrics, "Modern Infant Feeding" is the only article. Ostheimer is the author. In Surgery, C. P. Thomas, of Los Angeles, California, writes of the Open Treatment of Fractures. Another interesting paper is on A Case of Duodenal Stenosis, etc., by Charles Green Cuniston, M.D., of Boston, Mass.

Z. A. Le Prince, C.E., A.M., Chief Sanitary Inspector, Isthmian Canal Commission, Ancon, Canal Zone, writes interestingly on "Mosquito Work in the Canal Zone." His article occupies some 12 or 13 pages and is beautifully illustrated. He states that it "is often quite possible to eradicate completely all anopheles propagation areas." Draining and filling do the work. Next comes control of areas that cannot be permanently treated, which is done by a lavish use of oil. The weeds and grass along the water edge must be removed. Screens and the killing of mosquitos that get into the houses do the rest. He puts little faith in mosquito bars over beds.

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DR. PINET, in "*Le Concours Medical*," May 14, '04.

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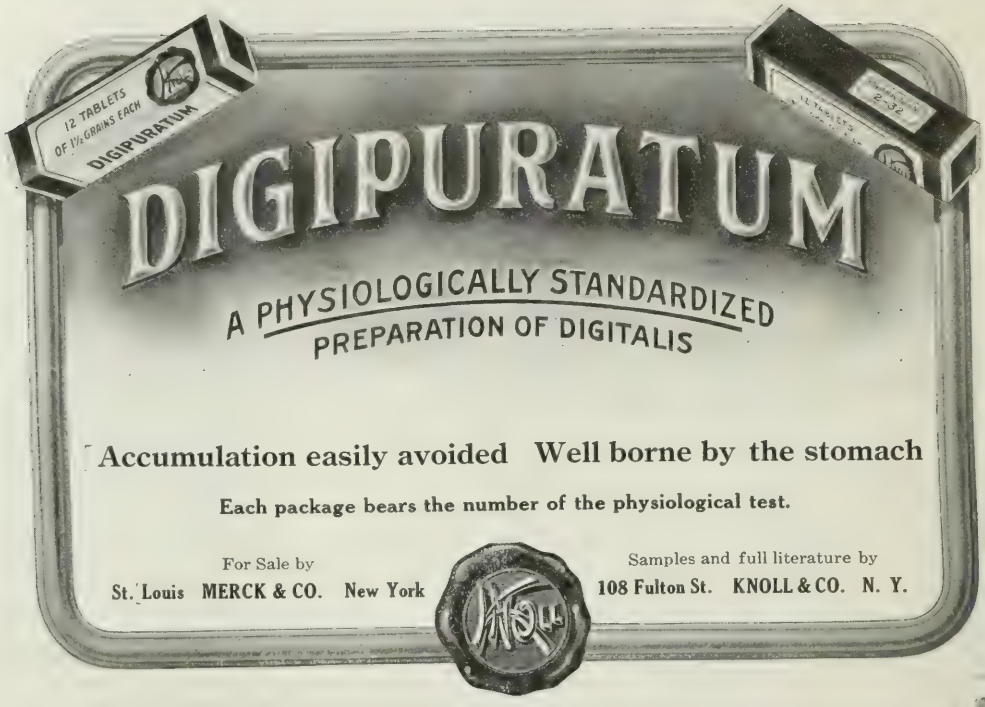
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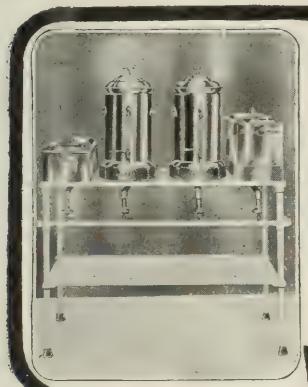

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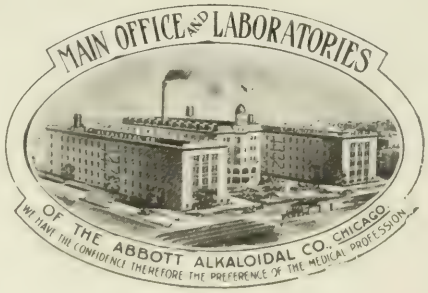
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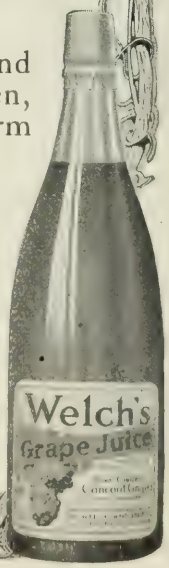

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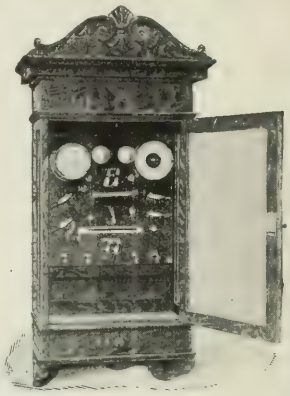

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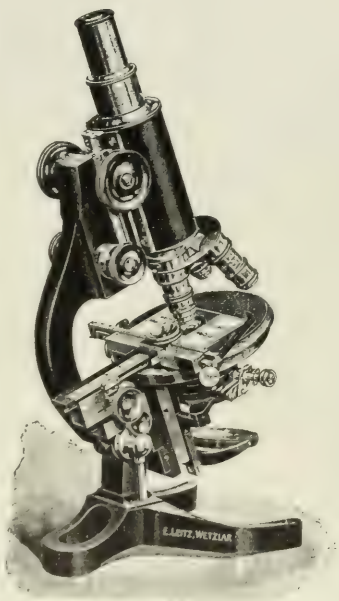

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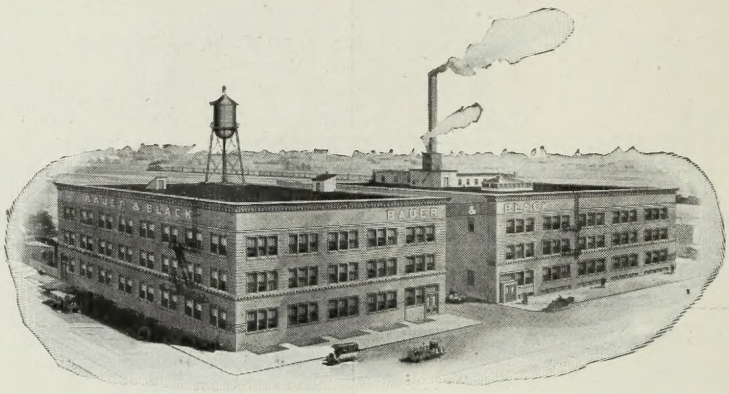
Parke, Davis & Co. .....Outside Back Cover
Regulin XXV
Supracapsulin XIX
Thiocol XIX
Welch's Grape Juice XXIV
Van Antwerps' .....Inside Back Cover



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The making of perfect surgical dressings is one of the rarest arts. We have spent twenty years in the learning.

Proficiency comes only through countless experiments, and through searching the world for ideas. And it never comes then unless one aims at ideals.

Utter perfection involves the solving of a myriad problems, of which asepsis is the most important.

It has required the erection of this model plant, to which a thousand surgeons contributed ideas.

It has required the invention of vacuum sterilizers.

It has required, for the final processes, a white enameled room, where every employee is governed by surgical rules.

It has taken two decades to accomplish all the perfections you find in every B & B product.

Every product which bears the B & B label represents the best that men know. It is made as you want it made. You will insist on this label when you once prove the facts.

Sample sent on request.

B&B Corset Dressing

Zinc-Oxide Adhesive Plaster fitted with shoe-lace hooks and laced with tape. Prevents dislodgement of a dressing and exposure of the wound. It can be used where bandaging is impracticable.

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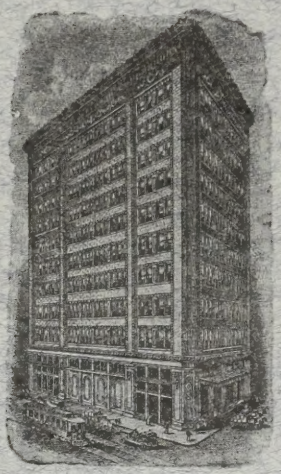

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For prompt astringent, sedative effect upon the lining membrane of the alimentary canal, there is no preparation of bismuth that equals the hydrated oxide suspended in distilled water, as presented in

Milk of Bismuth

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This is a palatable product, each fluidrachm representing the bismuth equivalent of five grains of bismuth subnitrate.

MILK OF BISMUTH, P. D. & CO., is indicated in acute and chronic gastritis, enterocolitis, the diarrheas of typhoid and tuberculosis, dysentery, summer diarrhea of infants, gastric ulcer—in fact, whenever there is evidence of inflammation or bacterial infection of the gastro-intestinal tract. It is free from any trace of arsenic or other impurities and may be prescribed with full confidence that it will agree with the most sensitive stomach.

Supplied in pint, 5-pint and gallon bottles.

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Although an old and well-tried medicament, many physicians have hesitated to prescribe magnesium oxide because of unfortunate experience with faulty "liquid" and "fluid" preparations.

Milk of Magnesia

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affords the full medicinal effect of the active agent without the objectionable features of many similar products. It is a purely aqueous mixture—a uniform liquid preparation, concentrated and active, each fluid-ounce representing about 32 grains of magnesium hydrate.

MILK OF MAGNESIA, P. D. & CO., is a valuable antacid and gentle laxative in dyspepsia, sick headache and other complaints attended with hyperacidity and constipation, and in diarrhea due to intestinal fermentation. It is applicable in the summer complaints of infants; in the nausea and vomiting of gestation; in the digestive disturbances consequent upon dietary errors.

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Parke, Davis & Co.

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